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Mean monthly vertical profiles of component winds, temperature, pressure and density are presented in metric units for 25-65 kilometers for White Sands Missile Range, New Mexico. Rocketsonde data are based on period of record 1961-1975.

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CONTENTS

INTRODUCTION

Rocketsonde atmospheric data for the 25-65 km levels at White Sands Missile Range (WSMR), New Mexico over the period 1961-1975 is the basis of two sections - Data and Modeling. The purpose of this report is to provide the upper portion of a complete atmospheric structure and a data base for projects such as balloon systems, rocket systems, lifting re-entry vehicles, missile detection system and high energy lasers.

Section I is data by month for the years 1961-1975. Standard Deviations are included by month for the years 1969-1975 extracted from "High Altitude Meteorological Data" reports (Reference 12). The extreme Standard Deviations for 25 and 26 km December 1969-1975 N-S, E-W winds do not follow the monthly or height trend 20 km to 30 km, so these four values are suspect.

Modeling in Section II is presented with emphasis on E-W wind component and the changeover cycle. A few cases of actual changeovers are presented for comparison with the model.

Rockets launched at Small Missile Range (SMR), provide a period of record of 1961-1975 with accuracies of instrumentation and the resulting data as stated in reference 9. SMR is located in the southern portion of WSMR (Figure 1).

SMR physical data = a. latitude 32° 28' N

b. longitude 106° 25' W

c. elevation 1,219 m MSL*

*MSL is measured above sea level.

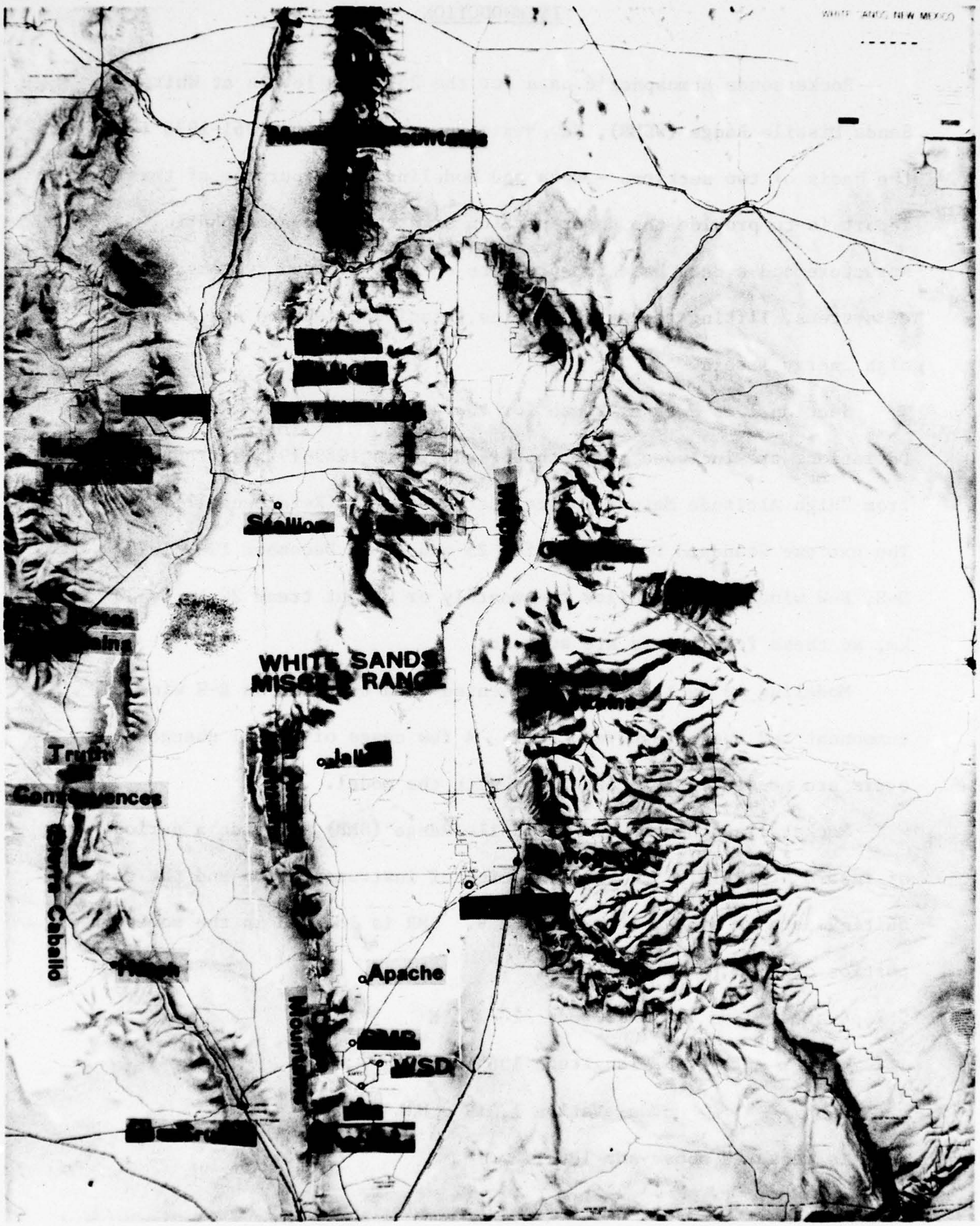


FIGURE 1. MAP OF METEOROLOGICAL SITES AT WSMR

EXPLANATION OF TERMS

1. WIND COMPONENTS

   Average zonal and meridional components for the month are calculated. A wind from the south or west is designated by a positive value, while a wind from the north or east is designated by a negative value. A zonal wind is from the east or west, a meridional from the north or south.

2. WIND GUSTS

   Wind gusts are characterized by sudden, intermittent increases in speed, with at least five meters per second variation between peaks and lulls. The average time interval between peaks and lulls usually should not exceed 20 seconds.

3. TEMPERATURE

   Average temperatures for the month for the given altitude are in degrees Celsius.

4. PRESSURE

   Average pressures for the month for the given altitudes are in millibars.

5. DENSITY

   Average densities for the month for the given altitude are in grams per cubic meter.

SECTION I PART 1

Rocketsonde data by month at WSMR is averaged 1961-1975 with standard deviations given for 1969-1975 portion in Tables 1-12.

Note that the numerical values for the standard deviations for temperatures, E-W, N-S Wind Components are larger in the winter (January and December) compared to summer (July and August). This may be attributed to the wintertime long and short term reversals which can cause considerable fluctuations in the temperature and wind fields. Long term reversals may be related to sudden warming episodes more prominent in the higher latitudes.

ROCKET-SONDE	MEAN COMPS S-N	WIND MPS W-E	TOTAL OBSNS	1961 - 1975 JANUARY MEAN TEMP DEG C	TOTAL OBSNS	MEAN PRESS MBS	TOTAL OBSNS	MEAN DENSITY G/CU M	TOTAL OBSNS	1969 - 1975 WIND STD DEV. S-N	W-E	TEMP STD DEV.	PRESS STD DEV.	DENS. STD DEV.
25	0	4	224	-55.3	99	24.850	94	39.723	94	4.1	10.1	3.6	.602	1.085
26	0	3	259	-54.0	119	21.311	113	33.821	113	4.6	11.6	3.9	.509	.914
27	0	4	264	-52.2	129	18.283	121	28.821	120	4.7	13.1	4.0	.442	.731
28	1	5	269	-50.8	130	15.687	122	24.563	122	5.3	14.7	4.2	.375	.594
29	1	7	272	-49.2	134	13.482	125	20.962	125	7.1	15.5	4.7	.339	.523
30	2	8	278	-47.5	137	11.608	128	17.922	128	7.6	16.6	5.2	.322	.498
31	2	10	283	-45.8	136	9.995	127	15.313	127	6.8	18.2	5.6	.281	.437
32	2	11	284	-43.7	136	8.620	127	13.093	127	7.6	19.6	5.9	.260	.378
33	3	13	284	-41.3	137	7.447	128	11.200	128	8.2	19.6	6.1	.242	.348
34	3	15	282	-38.9	133	6.435	124	9.573	124	8.7	21.7	6.7	.218	.324
35	2	17	283	-36.2	136	5.578	127	8.202	127	8.6	22.8	6.8	.200	.316
36	2	18	285	-33.2	138	4.846	128	7.031	128	9.0	22.3	8.2	.182	.296
37	2	19	286	-30.1	136	4.213	126	6.036	126	9.6	23.1	8.9	.165	.263
38	1	20	285	-26.7	136	3.672	127	5.186	127	10.3	23.2	9.6	.146	.227
39	3	20	284	-22.5	135	3.212	125	4.464	125	10.0	23.7	9.7	.138	.194
40	4	22	281	-19.0	133	2.804	123	3.843	123	11.5	23.0	9.3	.126	.167
41	6	24	281	-15.5	134	2.456	123	3.322	123	11.8	23.7	9.2	.115	.152
42	7	26	279	-12.7	134	2.156	123	2.886	123	13.4	23.9	8.5	.107	.137
43	9	28	276	-9.2	131	1.896	121	2.507	121	13.6	24.8	7.6	.095	.114
44	9	31	276	-6.5	133	1.674	123	2.192	123	15.0	25.3	8.2	.086	.110
45	10	34	274	-4.5	132	1.476	122	1.916	122	16.1	26.6	7.9	.079	.097
46	11	38	267	-3.4	131	1.303	121	1.685	121	18.0	28.1	7.1	.071	.088
47	13	40	260	-3.1	130	1.150	121	1.485	121	19.3	28.7	6.4	.064	.080
48	14	42	260	-3.7	128	1.014	119	1.311	119	19.9	29.9	5.8	.056	.066
49	15	43	252	-4.1	122	.897	113	1.161	113	20.9	30.6	5.6	.050	.060
50	15	44	247	-5.4	124	.792	115	1.028	115	19.9	31.0	5.6	.046	.054
51	14	46	252	-7.3	125	.698	116	.914	116	19.3	30.1	5.4	.041	.050
52	14	46	249	-9.0	122	.539	114	.812	114	19.1	30.8	5.9	.039	.048
53	15	47	245	-10.8	119	.540	111	.717	111	18.1	30.2	6.8	.034	.043
54	15	48	240	-11.9	117	.475	109	.634	109	18.2	30.2	6.8	.030	.039
55	14	49	232	-13.8	111	.417	106	.560	106	19.6	29.3	6.6	.027	.035
56	15	51	225	-15.0	107	.366	102	.495	102	19.9	29.4	6.8	.025	.032
57	13	54	219	-16.4	103	.323	99	.437	99	22.2	29.4	7.1	.022	.029
58	14	55	210	-17.1	97	.283	96	.386	96	22.3	29.3	7.9	.020	.026
59	14	58	197	-17.8	89	.249	89	.339	89	19.6	29.1	8.2	.018	.024
60	14	61	189	-18.5	80	.218	80	.298	80	20.0	29.1	9.2	.016	.022
61	13	65	163	-18.9	67	.190	67	.260	67	19.6	29.1	9.9	.015	.019
62	11	65	148	-19.3	61	.166	61	.228	61	19.5	30.9	9.5	.013	.016
63	10	68	126	-20.6	53	.145	53	.201	53	19.4	29.4	9.4	.012	.014
64	7	72	115	-23.2	47	.126	47	.176	47	21.9	28.5	9.8	.011	.012
65	6	74	103	-23.9	36	.109	36	.153	36	20.0	36.7	10.3	.008	.009

TABLE 1

ROCKET-SONDE	MEAN COMPS S-N	WIND MPS W-E	TOTAL OBSNS	MEAN TEMP DEG C	TOTAL OBSNS	MEAN PRESS MBS	TOTAL OBSNS	MEAN DENSITY G/CU M	TOTAL OBSNS	WIND STD DEV. S-N	WIND STD DEV. W-E	TEMP STD DEV.	PRESS STD DEV.	DENS. STD DEV.
			1961 - 1975 FEBRUARY									1969 - 1975		
25	-1	2	242	-55.0	123	24.850	112	39.701	112	3.5	9.4	3.6	.553	1.046
26	-1	2	270	-54.0	139	21.315	129	33.861	129	4.3	10.1	3.8	.466	.803
27	-1	4	275	-52.4	150	18.271	140	28.852	140	4.5	11.6	4.5	.410	.663
28	-1	5	282	-50.3	155	15.684	145	24.550	145	5.1	12.3	5.1	.366	.606
29	-1	6	283	-48.4	160	13.475	150	20.922	150	5.0	13.4	5.1	.331	.514
30	-1	8	288	-45.8	160	11.595	150	17.789	150	6.0	15.3	4.9	.229	.476
31	0	10	297	-42.9	161	10.013	151	15.158	151	6.1	17.3	5.5	.267	.435
32	0	12	298	-39.4	162	8.666	151	12.931	151	6.3	18.1	6.1	.245	.408
33	1	15	296	-36.5	162	7.494	151	11.048	151	8.0	19.2	6.1	.223	.359
34	1	17	295	-33.3	161	6.506	150	9.460	150	8.7	20.8	6.0	.199	.314
35	-7	19	295	-30.0	161	5.656	150	8.113	150	9.5	21.9	5.9	.182	.266
36	-1	21	296	-27.5	162	4.930	151	6.997	151	9.4	23.4	6.8	.162	.256
37	-1	22	296	-24.9	162	4.299	151	6.037	151	10.7	24.0	7.3	.146	.235
38	-1	24	293	-21.9	162	3.756	151	5.216	151	10.4	24.7	7.8	.130	.210
39	-2	25	293	-19.2	162	3.287	151	4.518	151	10.5	25.2	8.3	.118	.179
40	0	25	290	-16.3	161	2.877	150	3.907	150	11.3	25.9	8.5	.110	.147
41	0	26	285	-13.7	161	2.524	150	3.394	150	11.1	30.0	8.5	.101	.127
42	1	28	284	-11.2	160	2.219	149	2.955	149	10.7	28.7	7.7	.093	.109
43	1	30	283	-9.2	160	1.952	150	2.583	150	11.8	29.3	7.0	.086	.098
44	3	32	283	-7.0	159	1.721	149	2.261	149	12.8	28.1	6.4	.070	.085
45	4	35	282	-5.6	160	1.515	150	1.978	150	12.7	27.7	6.4	.071	.084
46	5	36	281	-5.2	157	1.333	148	1.738	148	12.9	27.4	6.2	.064	.076
47	6	38	280	-5.1	153	1.175	144	1.523	144	14.6	26.4	5.6	.058	.071
48	7	40	278	-5.1	152	1.038	144	1.354	144	15.7	25.6	5.8	.052	.064
49	7	42	275	-5.6	148	.916	142	1.195	142	15.9	25.3	5.8	.047	.057
50	7	43	273	-6.4	147	.809	142	1.057	142	15.8	23.9	5.8	.043	.050
51	8	44	272	-7.4	146	.713	142	.936	142	15.1	24.7	5.9	.039	.045
52	8	45	264	-7.6	141	.631	137	.829	137	15.9	26.0	5.7	.035	.041
53	8	47	256	-8.6	142	.556	138	.733	138	15.7	25.7	6.2	.031	.036
54	7	49	253	-9.7	140	.490	137	.648	137	16.1	27.3	6.3	.030	.034
55	9	49	249	-11.0	135	.432	133	.575	133	17.0	28.0	6.7	.026	.031
56	7	51	244	-12.2	130	.380	129	.507	129	17.1	27.9	7.1	.024	.028
57	7	52	237	-13.0	126	.335	126	.448	126	17.5	27.2	7.1	.022	.027
58	9	54	229	-14.1	121	.294	121	.395	121	19.2	23.9	7.3	.020	.022
59	9	58	214	-15.2	115	.258	115	.348	115	18.5	23.2	7.4	.016	.020
60	10	60	205	-16.7	111	.226	111	.307	111	18.0	22.6	7.6	.014	.017
61	9	64	188	-18.6	94	.198	94	.270	94	17.9	24.6	7.7	.013	.014
62	6	67	173	-19.8	85	.174	85	.239	85	19.3	26.3	7.8	.012	.014
63	4	67	153	-20.5	75	.153	75	.210	75	20.5	27.4	8.0	.011	.011
64	2	66	130	-21.6	65	.134	65	.185	65	19.7	28.1	8.0	.011	.012
65	-2	66	113	-23.6	50	.117	50	.163	50	20.5	27.3	6.8	.009	.010

TABLE 2

ROCKET-SONDE	MEAN COMPS S-N	WIND MPS W-E	TOTAL OBSNS	1961 - 1975 MARCH MEAN TEMP DEG C	TOTAL OBSNS	MEAN PRESS MBS	TOTAL OBSNS	MEAN DENSITY G/CU M	TOTAL OBSNS	1969 - 1975 WIND STD DEV. S-N	W-E	TEMP STD DEV.	PRESS STD DEV.	DENS. STD DEV.
25	0	3	211	-53.4	101	25.014	97	39.683	97	3.5	6.6	3.7	.648	1.328
26	1	4	246	-51.8	116	21.490	112	33.844	112	3.8	7.4	3.8	.495	.997
27	1	5	254	-49.6	127	18.655	123	28.842	123	4.0	8.3	4.2	.415	.785
28	2	7	261	-48.0	133	15.876	127	24.591	127	3.8	9.3	4.3	.359	.642
29	1	8	267	-45.8	139	13.665	132	20.943	132	4.0	10.1	4.7	.319	.532
30	1	10	273	-43.5	138	11.778	131	17.866	131	4.3	11.3	4.6	.291	.457
31	2	12	273	-40.9	141	10.182	133	15.269	133	5.0	12.8	4.8	.263	.390
32	2	13	272	-38.4	139	8.810	131	13.078	131	5.5	14.5	5.4	.239	.349
33	2	16	273	-35.7	140	7.635	132	11.208	132	6.0	16.9	5.6	.219	.30[illegible]
34	2	19	272	-32.8	140	6.630	132	9.615	132	7.5	20.6	6.2	.201	.289
35	1	21	270	-30.4	141	5.765	133	8.277	133	6.3	15.4	6.2	.182	.253
36	1	23	270	-28.0	138	5.021	130	7.138	130	6.8	16.7	5.9	.169	.222
37	0	24	271	-25.5	138	4.379	131	6.161	131	6.9	17.7	5.3	.154	.199
38	0	25	270	-23.1	138	3.824	131	5.332	131	7.9	18.0	5.4	.139	.174
39	0	26	267	-20.5	138	3.344	131	4.615	131	8.4	19.2	6.0	.128	.157
40	0	26	264	-18.0	139	2.929	132	4.002	132	9.0	19.7	6.2	.116	.138
41	0	26	263	-15.5	139	2.569	132	3.477	132	8.4	20.0	6.2	.105	.129
42	2	27	262	-13.4	138	2.254	131	3.027	131	9.3	25.2	6.0	.094	.12[illegible]
43	3	28	260	-11.2	138	1.983	131	2.638	131	10.3	23.1	5.6	.085	.112
44	4	29	257	-9.1	137	1.745	130	2.303	130	10.7	22.2	5.1	.076	.097
45	4	30	257	-8.0	138	1.538	132	2.023	132	11.2	21.5	5.2	.068	.086
46	5	31	258	-7.0	137	1.356	131	1.775	131	11.9	20.5	5.4	.061	.078
47	6	32	256	-5.5	137	1.195	132	1.562	132	12.8	20.2	5.2	.055	.068
48	6	32	253	-5.5	133	1.058	128	1.377	128	13.1	20.3	4.9	.050	.063
49	7	33	250	-5.3	132	.933	127	1.214	127	12.8	18.2	5.3	.045	.055
50	7	34	243	-5.2	131	.822	126	1.070	126	12.9	18.2	5.1	.039	.048
51	7	35	238	-5.1	130	.726	125	.944	125	12.2	18.0	5.0	.036	.043
52	7	35	233	-5.7	131	.641	126	.835	126	12.0	18.8	5.1	.033	.040
53	9	36	232	-6.3	131	.566	126	.739	126	12.8	19.4	4.8	.030	.034
54	9	36	229	-7.2	128	.499	123	.654	123	13.0	19.3	4.7	.028	.032
55	8	37	221	-8.4	124	.439	119	.578	119	13.3	19.2	5.2	.024	.028
56	7	38	216	-9.4	122	.387	118	.511	118	13.7	19.8	5.7	.021	.024
57	6	39	212	-10.5	117	.340	113	.452	113	13.2	20.3	5.5	.018	.021
58	7	41	200	-11.8	112	.299	108	.399	108	14.9	22.4	5.9	.016	.018
59	7	41	187	-13.4	110	.262	107	.353	107	16.6	23.7	6.1	.014	.018
60	7	40	174	-15.0	105	.230	93	.311	103	17.3	25.2	5.8	.014	.015
61	6	41	153	-16.4	85	.201	84	.273	84	16.6	25.7	5.6	.012	.014
62	5	42	138	-18.1	76	.177	75	.241	76	16.1	23.5	5.4	.008	.011
63	4	39	119	-19.6	73	.155	73	.212	73	16.8	23.9	5.8	.009	.009
64	4	39	106	-20.9	63	.135	63	.186	63	15.3	23.0	6.2	.008	.008
65	1	38	95	-21.9	50	.118	50	.163	50	16.6	23.2	7.0	.007	.007

TABLE 3

1961 - 1975 APRIL / 1969 - 1975

ROCKET-SONDE	MEAN COMPS S-N	WIND MPS W-E	TOTAL OBSNS	MEAN TEMP DEG C	TOTAL OBSNS	MEAN PRESS MBS	TOTAL OBSNS	MEAN DENSITY G/CU M	TOTAL OBSNS	WIND STD DEV. S-N	WIND STD DEV. W-E	TEMP STD DEV.	PRESS STD DEV.	DENS. STD DEV.
25	1	0	210	-51.5	93	25.593	85	40.243	85	2.9	4.3	2.8	.660	1.105
26	1	1	239	-49.5	107	21.964	99	34.229	99	3.2	4.4	3.0	.538	.885
27	1	3	258	-47.9	114	18.900	106	29.230	106	2.6	4.6	3.1	.459	.732
28	1	4	264	-46.2	123	16.256	115	24.962	115	3.1	5.3	3.6	.385	.597
29	1	6	264	-44.2	127	14.012	119	21.324	119	3.4	5.5	3.8	.338	.501
30	1	7	270	-41.8	128	12.101	120	18.233	120	4.1	6.5	4.1	.304	.417
31	1	9	273	-39.7	129	10.462	120	15.619	120	4.6	7.2	4.3	.277	.374
32	1	10	273	-36.8	129	9.061	120	13.368	120	5.2	7.7	4.0	.250	.335
33	2	12	272	-33.9	128	7.858	119	11.447	119	5.2	8.5	4.3	.229	.297
34	1	14	276	-31.6	126	6.829	117	9.852	117	6.0	9.1	4.5	.207	.269
35	1	16	281	-29.4	129	5.941	120	7.875	120	6.1	9.4	4.2	.187	.237
36	1	17	279	-26.6	129	5.177	120	7.321	120	5.6	10.2	4.1	.168	.220
37	0	17	281	-23.9	129	4.517	120	6.321	120	6.1	11.3	4.0	.149	.206
38	1	17	280	-20.9	129	3.947	120	5.461	120	6.9	12.2	4.0	.133	.186
39	5	16	277	-18.2	129	3.455	120	4.731	120	7.4	13.4	4.2	.117	.165
40	0	15	277	-15.0	129	3.029	120	4.099	120	8.3	14.6	4.4	.105	.148
41	5	14	275	-12.1	128	2.659	119	3.561	119	9.0	14.4	4.9	.093	.138
42	3	13	273	-9.5	127	2.340	118	3.102	118	8.9	15.5	5.1	.084	.123
43	4	13	270	-7.0	128	2.062	119	2.704	119	9.7	14.6	4.9	.080	.104
44	5	14	272	-4.9	126	1.816	117	2.365	117	8.5	15.6	4.8	.066	.089
45	5	14	270	-3.6	128	1.602	119	2.076	119	8.2	16.3	4.5	.059	.076
46	5	13	264	-2.3	127	1.414	118	1.822	118	8.3	16.6	4.4	.053	.066
47	6	13	263	-1.5	126	1.248	117	1.604	117	9.2	17.4	4.1	.048	.061
48	5	13	260	-1.2	125	1.104	116	1.417	116	10.8	17.8	3.8	.043	.053
49	4	12	259	-1.1	123	.976	115	1.252	115	9.7	17.9	3.4	.037	.046
50	5	12	256	-1.4	121	.862	113	1.107	113	8.7	17.7	3.4	.034	.043
51	5	11	253	-1.9	119	.762	111	.981	111	9.7	18.2	3.7	.032	.038
52	5	11	249	-2.5	116	.673	108	.868	108	8.2	18.6	3.7	.027	.035
53	5	10	241	-3.3	116	.594	108	.769	108	8.9	18.3	4.0	.024	.030
54	4	9	237	-4.4	114	.524	107	.681	107	9.3	17.4	4.0	.022	.027
55	3	9	232	-5.8	111	.462	105	.604	105	12.2	19.7	4.2	.019	.026
56	5	7	226	-7.5	108	.407	102	.535	102	13.1	19.6	3.9	.018	.022
57	6	6	215	-8.8	102	.359	96	.475	96	12.0	19.6	4.4	.017	.020
58	7	6	202	-10.1	96	.317	91	.422	91	11.7	20.7	4.6	.015	.018
59	7	5	192	-11.8	95	.279	91	.372	90	12.6	19.8	4.9	.014	.015
60	7	5	177	-13.2	89	.245	85	.329	85	12.8	20.2	5.4	.012	.013
61	6	4	164	-14.6	84	.215	80	.291	80	12.8	21.4	5.9	.010	.012
62	7	4	155	-15.8	72	.188	68	.256	68	11.6	20.7	6.1	.010	.011
63	6	3	139	-16.7	63	.165	59	.226	59	14.7	21.7	6.3	.010	.009
64	7	4	117	-19.3	53	.144	50	.198	50	12.4	18.7	6.5	.007	.007
65	4	1	97	-21.4	40	.125	38	.175	38	13.7	16.7	6.9	.007	.006

TABLE 4

ROCKET-SONDE	MEAN COMPS S-N	WIND MPS W-E	TOTAL OBSNS	1961 - 1975 MEAN TEMP DEG C	TOTAL OBSNS	MAY MEAN PRESS MBS	TOTAL OBSNS	MEAN DENSITY G/CU M	TOTAL OBSNS	WIND STD DEV. S-N	W-E	1969 - 1975 TEMP STD DEV.	PRESS STD DEV.	DENS. STD DEV.
25	1	-4	230	-50.3	96	26.157	90	40.868	90	2.9	3.4	2.0	.816	1.321
26	1	-3	259	-48.6	113	22.462	108	34.817	108	3.0	5.2	2.0	.637	1.004
27	1	-3	277	-46.7	117	19.330	113	29.735	113	2.9	5.0	2.0	.543	.831
28	1	-2	283	-45.1	127	16.659	119	25.419	119	2.9	5.0	2.3	.467	.703
29	0	-1	285	-43.2	125	14.373	117	21.765	117	3.1	5.7	2.8	.412	.612
30	0	-1	291	-41.2	129	12.409	121	18.625	121	3.6	6.1	2.8	.360	.519
31	1	-1	290	-38.9	132	10.731	123	15.950	123	3.7	6.8	3.0	.313	.446
32	2	0	294	-36.4	133	9.304	124	13.683	124	3.7	7.9	2.9	.275	.380
33	2	0	300	-33.8	134	8.072	125	11.744	125	3.9	9.1	2.6	.243	.315
34	1	0	299	-31.6	134	7.014	125	10.112	125	5.5	11.0	2.6	.216	.285
35	1	0	302	-29.0	134	6.102	124	8.836	124	10.8	11.1	3.0	.194	.254
36	1	-1	302	-27.3	133	5.320	123	7.534	123	10.1	8.8	3.5	.172	.224
37	0	-1	303	-24.0	135	4.643	124	6.493	124	6.2	8.7	2.9	.153	.206
38	0	-3	299	-20.8	134	4.063	123	5.607	123	4.2	7.8	3.4	.134	.178
39	0	-5	299	-17.7	134	3.558	123	4.854	123	4.6	7.8	3.9	.119	.157
40	0	-6	306	-14.7	135	3.120	124	4.206	124	4.8	9.1	3.5	.108	.142
41	1	-8	305	-11.6	134	2.740	123	3.649	123	5.3	9.9	3.6	.096	.131
42	1	-9	305	-8.5	134	2.410	123	3.175	123	4.6	10.4	3.6	.084	.113
43	2	-12	303	-6.0	134	2.124	123	2.770	123	6.3	10.8	3.7	.074	.099
44	3	-13	302	-4.0	134	1.873	123	2.425	123	7.1	13.4	3.2	.067	.083
45	3	-14	303	-2.1	133	1.653	123	2.126	123	8.1	15.0	3.2	.061	.074
46	4	-15	300	-1.0	133	1.463	123	1.874	123	10.2	16.3	3.2	.054	.070
47	4	-15	297	0	132	1.294	123	1.654	123	7.2	11.2	3.5	.048	.060
48	4	-16	295	5.3	131	1.146	122	1.463	122	6.7	11.4	3.6	.043	.050
49	4	-18	291	.1	131	1.014	122	1.295	122	7.9	11.2	3.9	.038	.043
50	4	-19	289	3.8	131	.898	122	1.146	122	8.0	9.7	4.3	.037	.039
51	5	-20	286	-.7	130	.793	121	1.015	121	6.3	10.5	4.1	.033	.034
52	5	-20	281	-1.8	126	.700	118	.900	118	5.9	10.2	3.9	.029	.032
53	5	-22	280	-3.1	125	.618	116	.798	116	7.0	10.5	4.0	.027	.029
54	5	-22	277	-4.6	123	.545	115	.708	115	8.4	12.7	4.2	.023	.026
55	4	-23	272	-6.3	121	.481	113	.628	113	8.3	11.6	4.2	.021	.024
56	4	-25	260	-7.9	121	.424	114	.557	114	8.2	11.7	4.4	.018	.019
57	4	-26	253	-9.5	120	.374	113	.493	113	8.4	11.7	4.3	.017	.020
58	4	-28	247	-11.2	120	.329	113	.437	113	9.0	10.9	4.4	.016	.016
59	3	-28	236	-13.2	116	.289	110	.386	110	10.4	13.7	4.8	.015	.017
60	3	-30	227	-14.9	105	.253	99	.341	99	9.7	14.6	5.2	.013	.015
61	4	-32	210	-17.5	100	.221	94	.300	94	8.4	14.7	5.2	.012	.014
62	6	-33	192	-19.4	94	.194	89	.265	89	10.1	13.6	5.4	.011	.011
63	6	-32	173	-21.7	82	.170	80	.235	80	10.9	13.9	6.1	.011	.010
64	6	-32	142	-24.6	64	.148	63	.207	63	11.8	14.6	6.6	.010	.010
65	4	-33	116	-28.6	50	.128	50	.181	50	11.9	16.5	6.8	.010	.010

TABLE 5

ROCKET-SONDE	MEAN COMPS S-N	WIND MPS W-E	TOTAL OBSNS	1961 - 1975 MEAN TEMP DEG C	TOTAL OBSNS	JUNE MEAN PRESS MBS	TOTAL OBSNS	MEAN DENSITY G/CU M	TOTAL OBSNS	WIND STD DEV. S-N	W-E	1969 - 1975 TEMP STD DEV.	PRESS STD DEV.	DENS. STD DEV.
25	1	-10	226	-49.0	95	26.808	92	41.699	92	2.4	3.5	1.9	1.098	1.814
26	1	-11	255	-47.1	114	23.056	111	35.563	111	2.7	8.8	2.3	.894	1.467
27	0	-12	270	-45.3	123	19.855	119	30.377	119	2.6	8.3	2.2	.740	1.197
28	1	-12	272	-43.2	134	17.114	127	25.952	127	2.6	8.2	2.4	.611	.960
29	1	-13	273	-41.8	137	14.776	129	22.260	129	3.0	8.4	2.4	.518	.799
30	1	-13	281	-39.9	139	12.764	130	19.066	130	3.3	8.8	2.5	.448	.707
31	2	-14	282	-37.6	139	11.049	130	16.348	130	3.9	9.2	2.8	.389	.622
32	1	-14	286	-35.3	141	9.579	132	13.936	132	4.0	9.4	2.8	.332	1.639
33	1	-15	288	-33.2	142	8.311	133	12.073	133	4.1	9.2	2.9	.288	.445
34	1	-16	294	-30.7	142	7.225	133	10.392	133	4.5	9.0	3.1	.253	.379
35	1	-17	294	-28.3	141	6.287	132	8.956	132	3.8	9.0	3.0	.219	.337
36	1	-17	292	-25.6	141	5.482	132	7.723	132	3.6	9.2	3.3	.191	.289
37	1	-19	294	-22.9	141	4.788	132	6.672	132	4.0	8.6	3.2	.166	.243
38	1	-21	292	-20.1	139	4.191	131	5.778	131	3.5	8.9	3.3	.146	.211
39	1	-22	292	-17.5	139	3.670	131	5.007	131	4.1	9.2	3.3	.129	.179
40	1	-24	291	-14.4	138	3.221	129	4.345	130	4.9	9.4	3.4	.114	.159
41	1	-26	289	-11.6	140	2.830	132	3.774	132	4.8	9.9	3.5	.099	.132
42	1	-29	288	-8.5	140	2.489	132	3.281	132	5.4	10.7	4.0	.090	.117
43	1	-31	290	-20.0	140	2.251	132	2.859	132	5.6	9.5	4.0	.080	.102
44	2	-32	289	-3.8	140	1.933	132	2.502	132	5.5	9.1	3.9	.075	.096
45	2	-33	289	-2.3	139	1.705	132	2.194	132	5.9	9.4	3.7	.063	.082
46	3	-35	287	-.9	138	1.506	131	1.929	131	6.8	10.7	3.5	.056	.073
47	4	-36	286	.1	136	1.333	129	1.700	129	7.5	10.8	4.0	.051	.068
48	4	-37	288	.2	138	1.180	131	1.504	131	6.6	9.8	4.7	.046	.062
49	6	-38	287	.1	136	1.044	130	1.333	130	7.5	9.8	4.8	.040	.053
50	5	-39	285	-.4	136	.923	130	1.180	130	7.1	10.1	4.7	.037	.046
51	5	-40	283	-.9	135	.816	129	1.044	129	7.4	9.6	4.7	.032	.038
52	5	-42	282	-1.9	134	.721	128	.926	128	8.3	9.5	4.5	.030	.034
53	5	-43	279	-3.2	131	.636	125	.821	125	7.4	11.2	4.7	.027	.031
54	5	-45	274	-4.9	131	.560	125	.728	125	8.3	11.8	4.7	.024	.027
55	4	-46	268	-6.7	130	.494	124	.646	124	8.8	12.0	4.9	.022	.025
56	3	-48	262	-8.4	129	.436	123	.573	123	9.9	12.3	5.0	.019	.024
57	3	-49	255	-10.2	124	.384	118	.508	118	10.3	11.2	5.2	.019	.023
58	3	-51	243	-11.7	125	.338	119	.450	119	9.7	13.0	5.4	.017	.020
59	3	-53	234	-13.8	123	.298	118	.399	118	10.6	14.6	5.8	.016	.016
60	2	-55	219	-15.9	114	.262	109	.354	109	11.8	17.5	6.6	.014	.016
61	4	-57	196	-18.5	104	.230	100	.313	100	12.3	18.4	7.0	.014	.016
62	4	-57	178	-20.5	95	.202	91	.278	91	14.3	18.7	7.1	.013	.015
63	3	-58	156	-22.9	84	.177	82	.246	82	14.5	17.9	7.8	.012	.014
64	3	-58	131	-24.8	74	.154	73	.216	73	15.4	17.5	8.6	.011	.012
65	4	-60	114	-28.6	58	.133	58	.189	58	19.2	18.5	9.4	.008	.009

TABLE 6

1961 - 1975 JULY / 1969 - 1975

ROCKET-SONDE	MEAN COMPS S-N	WIND MPS W-E	TOTAL OBSNS	MEAN TEMP DEG C	TOTAL OBSNS	MEAN PRESS MBS	TOTAL OBSNS	MEAN DENSITY G/CU M	TOTAL OBSNS	WIND STD DEV. S-N	WIND STD DEV. W-E	TEMP STD DEV.	PRESS STD DEV.	DENS. STD DEV.
25	1	-17	227	-49.5	90	26.998	89	42.208	82	3.5	4.9	2.7	.567	1.057
26	1	-17	259	-47.7	116	23.363	115	36.083	108	3.3	4.1	2.7	1.237	1.893
27	1	-18	264	-45.9	119	21.091	117	30.797	110	4.3	4.8	2.8	1.060	1.528
28	1	-19	268	-44.1	124	17.330	121	26.337	114	3.8	4.5	3.1	.904	1.233
29	1	-20	272	-42.2	125	14.958	122	22.546	115	3.6	4.5	3.6	.791	1.075
30	1	-21	279	-40.3	126	12.928	123	19.330	116	3.9	4.3	3.5	.696	.944
31	1	-21	283	-38.7	127	11.193	124	16.617	117	4.0	4.8	3.5	.614	.837
32	1	-22	282	-36.5	126	9.693	123	14.263	117	3.8	4.7	3.5	.541	.731
33	1	-22	283	-34.2	127	8.409	124	12.270	117	4.6	5.1	4.0	.477	.641
34	1	-23	285	-32.5	127	7.306	124	10.587	117	4.7	5.3	4.1	.420	.547
35	0	-24	285	-30.5	127	6.353	124	9.131	117	4.8	5.7	4.0	.372	.488
36	0	-26	287	-27.8	126	5.417	123	7.868	116	4.8	6.0	3.9	.329	.432
37	1	-28	289	-25.2	126	4.819	123	6.785	116	5.0	6.0	3.9	.292	.370
38	1	-30	288	-22.6	126	4.208	123	5.862	116	5.6	6.0	4.5	.259	.325
39	0	-31	287	-19.6	126	3.795	123	5.068	116	5.4	5.6	4.7	.232	.293
40	0	-33	284	-17.1	125	3.225	122	4.394	117	5.7	6.2	4.9	.206	.257
41	0	-36	284	-14.1	124	2.829	121	3.810	117	5.9	8.1	4.9	.184	.225
42	1	-38	279	-11.6	124	2.487	121	3.316	117	6.3	7.0	4.9	.164	.202
43	3	-40	280	-9.2	124	2.190	121	2.892	117	7.1	7.5	4.2	.147	.181
44	4	-42	278	-7.0	124	1.930	121	2.528	117	6.4	7.5	3.7	.130	.161
45	4	-42	276	-5.3	123	1.702	120	2.215	116	6.6	7.3	4.0	.118	.145
46	4	-44	273	-4.2	123	1.500	120	1.945	116	6.3	7.5	3.9	.105	.128
47	4	-45	272	-3.5	122	1.322	119	1.709	116	7.3	7.9	4.0	.093	.115
48	4	-46	273	-3.0	121	1.170	118	1.509	115	7.0	8.3	4.4	.084	.101
49	4	-47	272	-3.2	119	1.187	116	1.334	114	7.2	9.5	4.7	.074	.087
50	4	-49	269	-3.8	118	.914	115	1.181	114	7.8	10.2	4.6	.067	.077
51	4	-51	264	-4.4	116	.807	113	1.046	112	7.7	9.6	4.7	.061	.070
52	4	-53	262	-5.7	116	.712	113	.927	112	7.7	11.7	4.8	.054	.063
53	4	-54	257	-7.2	115	.627	112	.821	111	8.8	10.9	5.3	.049	.058
54	5	-54	254	-8.5	114	.553	111	.728	110	9.9	11.1	5.7	.045	.052
55	4	-54	246	-10.3	111	.487	108	.645	107	10.0	11.6	5.7	.039	.046
56	4	-57	238	-12.0	111	.429	108	.572	107	11.2	13.1	5.9	.036	.042
57	4	-59	225	-13.8	111	.378	108	.507	107	10.8	17.5	6.2	.032	.038
58	4	-60	217	-15.5	106	.333	103	.448	102	12.3	16.0	6.3	.029	.033
59	4	-61	200	-17.6	102	.297	100	.396	99	13.1	18.8	6.9	.026	.029
60	4	-61	184	-19.2	97	.255	96	.349	95	16.6	24.3	7.6	.023	.027
61	4	-63	172	-20.4	89	.222	89	.306	88	17.3	24.5	7.7	.021	.026
62	7	-60	156	-21.5	81	.189	81	.270	81	16.9	27.7	7.5	.020	.025
63	7	-55	145	-22.2	76	.172	76	.238	76	21.9	32.0	7.8	.018	.023
64	4	-55	122	-22.8	59	.151	59	.210	59	24.8	31.8	7.8	.016	.022
65	3	-50	103	-25.4	43	.131	43	.185	43	23.0	34.7	7.6	.016	.021

TABLE 7

1961 - 1975 AUGUST ... 1969 - 1975

ROCKET-SONDE	MEAN COMPS S-N	WIND MPS W-E	TOTAL OBSNS	MEAN TEMP DEG C	TOTAL OBSNS	MEAN PRESS MBS	TOTAL OBSNS	MEAN DENSITY G/CU M	TOTAL OBSNS	WIND STD DEV. S-N	WIND STD DEV. W-E	TEMP STD DEV.	PRESS STD DEV.	DENS. STD DEV.
25	0	-16	263	-50.1	108	26.833	107	41.825	92	2.5	3.0	3.1	1.308	2.149
26	1	-17	280	-48.4	127	23.078	126	35.706	112	2.9	3.1	2.7	.988	1.578
27	1	-17	289	-46.9	133	19.844	132	30.523	118	2.5	3.5	2.6	.823	1.307
28	1	-18	292	-45.2	133	17.094	132	26.090	118	2.6	3.8	2.5	.706	1.092
29	0	-19	292	-43.6	133	14.740	132	22.342	118	3.4	3.4	2.7	.610	.956
30	1	-20	295	-41.7	135	12.678	134	19.132	120	3.4	3.6	2.8	.524	.803
31	1	-20	297	-39.7	135	11.013	134	16.410	120	3.4	4.0	3.2	.457	.679
32	1	-20	298	-37.8	135	9.537	134	14.078	120	3.3	4.9	3.3	.398	.580
33	1	-21	296	-36.1	135	8.262	134	12.134	120	4.1	5.6	3.8	.351	.505
34	2	-21	293	-34.3	135	7.167	134	10.448	120	3.7	5.3	3.9	.310	.442
35	1	-21	293	-32.3	135	6.230	134	9.008	120	4.3	5.2	3.8	.272	.388
36	1	-22	293	-30.2	134	5.425	133	7.766	119	4.3	5.4	3.7	.240	.341
37	1	-23	294	-27.6	136	4.719	135	6.694	121	3.8	6.2	3.5	.209	.289
38	1	-24	291	-25.2	134	4.114	133	5.774	120	4.6	7.2	3.4	.185	.248
39	0	-26	284	-22.3	134	3.592	133	4.988	120	5.0	7.6	4.0	.163	.217
40	1	-27	283	-19.5	134	3.142	133	4.319	120	6.4	11.2	4.0	.145	.195
41	0	-29	281	-16.8	131	2.756	130	3.745	119	4.9	8.4	4.4	.130	.174
42	1	-30	278	-14.3	132	2.413	131	3.254	120	5.5	9.4	5.4	.114	.157
43	2	-32	274	-11.5	131	2.126	130	2.832	119	5.7	9.2	5.1	.103	.135
44	2	-33	274	-9.2	130	1.869	129	2.468	119	7.3	9.9	4.5	.090	.118
45	3	-34	271	-7.5	128	1.647	127	2.161	118	7.1	10.4	4.4	.080	.106
46	4	-36	269	-6.6	128	1.450	127	1.897	119	7.5	10.3	4.7	.071	.094
47	4	-35	269	-5.7	125	1.278	124	1.666	117	8.4	10.6	5.0	.065	.083
48	5	-36	269	-5.1	124	1.126	123	1.465	117	9.1	11.0	4.8	.057	.074
49	5	-36	263	-5.0	121	1.020	120	1.292	116	9.3	11.7	4.5	.051	.066
50	5	-36	262	-5.4	118	.877	117	1.144	115	10.0	12.8	4.5	.046	.056
51	6	-37	256	-5.9	118	.773	117	1.008	115	10.9	13.1	4.9	.041	.051
52	6	-37	254	-6.0	119	.626	118	.891	116	11.1	15.1	4.7	.036	.044
53	5	-37	249	-7.3	117	.602	116	.788	115	11.7	16.7	4.3	.033	.040
54	5	-36	246	-8.6	116	.531	115	.699	115	11.3	16.9	5.2	.029	.037
55	4	-36	241	-9.9	114	.467	113	.618	113	12.5	17.6	5.1	.026	.032
56	4	-36	237	-11.3	111	.410	110	.549	110	9.8	21.3	5.6	.023	.028
57	3	-35	230	-12.9	109	.361	108	.483	108	12.5	20.4	5.9	.021	.026
58	3	-34	217	-14.5	105	.317	104	.427	104	14.5	21.0	6.4	.020	.024
59	4	-32	208	-16.4	104	.278	103	.377	103	14.3	21.4	6.7	.016	.019
60	3	-31	189	-18.2	97	.244	96	.334	96	13.9	22.2	7.3	.015	.015
61	3	-30	159	-20.6	79	.214	78	.295	78	13.9	24.0	7.8	.015	.015
62	2	-26	145	-23.3	73	.186	72	.259	72	14.8	26.2	7.9	.012	.013
63	0	-20	125	-24.7	63	.162	62	.228	62	17.0	25.0	8.6	.010	.011
64	1	-20	111	-26.0	54	.141	53	.200	53	18.8	23.5	8.6	.010	.010
65	-2	-17	88	-27.7	44	.124	43	.176	43	20.4	28.0	8.9	.010	.010

TABLE 8

ROCKET-SONDE	MEAN COMPS S-N	WIND MPS W-E	TOTAL OBSNS	1961 - 1975 SEPTEMBER MEAN TEMP DEG C	TOTAL OBSNS	MEAN PRESS MBS	TOTAL OBSNS	MEAN DENSITY G/CU M	TOTAL OBSNS	WIND STD DEV. S-N	W-E	1969 - 1975 TEMP STD DEV.	PRESS STD DEV.	DENS. STD DEV.
25	1	-8	246	-49.8	110	26.500	102	41.353	106	2.6	3.9	4.1	.701	1.220
26	0	-9	268	-48.0	129	22.791	126	35.313	126	3.2	5.8	4.0	.599	.926
27	1	-9	275	-46.6	134	19.629	131	30.191	131	2.6	5.0	3.8	.494	.747
28	1	-9	281	-45.0	136	16.914	133	25.841	133	3.3	5.0	4.0	.439	.615
29	1	-9	279	-43.3	135	14.594	132	22.138	132	3.2	5.4	4.0	.398	.539
30	1	-9	282	-41.6	136	12.608	133	18.975	133	6.6	6.1	4.6	.360	.454
31	1	-9	286	-40.1	136	10.890	133	16.288	133	3.5	7.8	4.5	.328	.384
32	2	-8	288	-38.8	138	9.429	135	14.010	135	3.8	6.3	4.7	.300	.334
33	2	-8	288	-37.2	137	8.165	134	12.051	134	8.5	6.6	4.6	.276	.308
34	2	-6	287	-35.2	133	7.082	131	10.368	131	4.0	6.5	4.3	.253	.281
35	0	-6	285	-33.5	138	6.146	135	8.936	135	4.0	6.8	4.3	.231	.254
36	0	-7	289	-31.4	137	5.341	134	7.697	134	4.2	8.7	4.4	.212	.231
37	0	-7	286	-28.9	138	4.651	135	6.635	135	5.7	10.9	4.6	.192	.214
38	0	-8	285	-26.6	136	4.055	133	5.727	133	5.0	9.1	4.3	.176	.192
39	2	-8	287	-23.5	137	3.540	134	4.940	134	5.4	9.7	4.4	.160	.173
40	1	-8	287	-20.8	136	3.097	133	4.272	133	5.9	9.3	4.1	.145	.165
41	2	-8	285	-18.1	138	2.715	135	3.711	135	6.0	9.4	4.1	.130	.154
42	1	-10	282	-15.0	137	2.382	134	3.219	134	6.3	10.1	4.2	.116	.138
43	2	-9	282	-12.0	138	2.093	135	2.796	135	7.0	10.0	3.8	.104	.126
44	2	-10	280	-9.8	137	1.851	132	2.439	134	7.7	12.1	4.0	.093	.115
45	3	-10	277	-7.8	136	1.619	133	2.130	133	6.0	11.9	4.2	.082	.103
46	3	-9	276	-6.1	136	1.428	133	1.864	133	7.8	11.3	4.4	.073	.091
47	4	-9	276	-5.0	136	1.259	133	1.636	133	7.8	13.5	4.2	.066	.081
48	5	-8	273	-4.4	136	1.109	133	1.438	133	7.8	14.1	4.3	.058	.076
49	6	-6	270	-4.1	136	.979	133	1.268	133	9.2	14.9	4.1	.052	.067
50	5	-4	270	-3.7	134	.874	131	1.118	131	8.3	14.7	4.1	.046	.062
51	5	-5	267	-4.3	132	.760	129	.985	129	8.1	13.0	3.7	.038	.046
52	5	-4	259	-5.3	130	.671	128	.873	128	8.9	14.4	3.8	.034	.042
53	5	-3	253	-6.2	128	.591	126	.772	126	8.6	15.4	4.2	.032	.037
54	5	-2	247	-7.2	128	.521	126	.683	126	8.5	15.5	4.6	.028	.032
55	5	-1	245	-8.6	126	.460	124	.605	124	11.1	12.8	5.0	.025	.029
56	6	0	233	-9.8	121	.405	119	.535	119	11.0	13.0	5.3	.023	.026
57	6	2	225	-10.8	117	.356	120	.473	115	11.6	14.2	5.2	.021	.023
58	6	2	216	-12.1	117	.314	115	.419	115	11.7	17.0	5.7	.019	.021
59	6	4	203	-13.4	114	.276	113	.366	113	17.8	15.6	6.5	.018	.045
60	4	6	183	-15.3	107	.242	106	.326	106	11.7	13.9	6.9	.015	.015
61	4	7	167	-17.4	95	.212	95	.288	95	12.2	13.5	6.8	.015	.016
62	2	8	157	-19.1	90	.186	90	.255	90	11.9	15.0	6.9	.013	.014
63	1	8	142	-21.4	83	.162	83	.224	83	13.6	16.4	7.4	.012	.013
64	1	9	129	-23.1	70	.142	70	.198	70	17.3	19.4	8.1	.011	.011
65	-1	12	108	-24.9	53	.125	53	.175	53	16.8	22.8	8.4	.009	.010

TABLE 9

ROCKET-SONDE	MEAN COMPS S-N	WIND MPS W-E	TOTAL OBSNS	1961 - 1975 MEAN TEMP DEG C	TOTAL OBSNS	OCTOBER MEAN PRESS MBS	TOTAL OBSNS	MEAN DENSITY G/CU M	TOTAL OBSNS	WIND STD DEV. S-N	W-E	1969 - 1975 TEMP STD DEV.	PRESS STD DEV.	DENS. STD DEV.
25	0	1	286	-51.5	139	25.917	136	40.731	136	3.0	6.5	2.8	1.126	1.824
26	0	2	305	-50.0	153	22.268	151	34.763	151	3.0	6.7	3.2	.948	1.548
27	1	2	312	-48.4	158	19.151	155	29.689	155	3.5	7.7	3.4	.804	1.341
28	1	4	318	-47.2	161	16.479	157	25.402	157	3.6	8.2	3.5	.688	1.127
29	1	5	321	-46.1	163	14.183	160	21.762	160	3.6	9.1	3.6	.592	.939
30	1	5	324	-44.9	165	12.228	161	18.661	161	4.0	10.1	3.3	.516	.778
31	2	7	326	-43.4	165	10.551	161	16.008	161	4.2	10.9	3.5	.494	.654
32	2	9	326	-41.8	165	9.120	161	13.738	161	4.8	11.6	3.8	.393	.583
33	2	11	328	-39.8	165	7.882	161	11.769	161	5.4	12.9	3.6	.343	.507
34	2	13	328	-37.8	165	6.823	161	10.103	161	6.1	13.6	4.2	.302	.427
35	2	15	329	-35.8	165	5.916	161	8.682	161	5.9	14.7	4.0	.268	.358
36	2	16	327	-33.9	166	5.136	162	7.480	162	5.8	16.4	4.1	.237	.310
37	1	18	324	-31.1	165	4.466	161	6.429	161	6.2	17.0	5.0	.209	.286
38	0	20	324	-28.6	165	3.885	161	5.533	161	6.5	17.3	4.3	.188	.244
39	0	20	323	-25.8	166	3.390	162	4.774	162	6.7	18.1	5.0	.166	.214
40	0	21	324	-22.9	165	2.959	161	4.120	161	5.8	18.7	4.7	.148	.192
41	1	22	312	-19.9	166	2.584	162	3.561	162	6.3	18.8	4.7	.132	.167
42	1	23	320	-16.9	166	2.984	162	3.081	162	6.4	18.8	4.7	.117	.146
43	2	25	315	-13.7	163	1.984	159	2.666	159	7.3	19.3	4.9	.090	.105
44	3	27	314	-11.2	161	1.770	157	2.325	157	8.4	19.6	4.3	.094	.120
45	5	29	316	-9.0	161	1.539	157	2.030	157	8.1	19.4	4.4	.085	.105
46	5	30	313	-7.6	161	1.356	158	1.779	158	8.5	19.7	4.4	.075	.094
47	6	32	306	-6.4	160	1.196	157	1.562	157	8.8	19.8	4.5	.068	.083
48	7	34	304	-5.9	159	1.053	157	1.373	157	9.7	20.6	4.6	.061	.075
49	8	37	300	-5.5	159	.928	157	1.208	157	9.8	21.7	5.0	.054	.067
50	8	39	296	-5.4	159	.819	157	1.066	157	9.8	23.1	4.8	.048	.059
51	8	41	288	-5.8	156	.723	154	.940	154	9.9	24.5	4.8	.043	.049
52	7	42	283	-6.4	152	.638	150	.832	150	10.2	25.1	5.1	.040	.045
53	8	44	278	-7.3	152	.563	150	.737	150	9.9	26.0	5.5	.036	.042
54	8	45	270	-8.4	152	.495	150	.651	150	11.6	26.5	5.6	.032	.037
55	8	46	264	-9.8	148	.437	146	.577	146	12.4	21.5	5.5	.029	.033
56	7	47	257	-11.1	146	.384	144	.511	144	12.4	21.6	5.8	.025	.029
57	7	48	245	-12.3	139	.338	137	.451	137	12.3	22.3	6.1	.024	.027
58	7	49	240	-13.6	136	.297	134	.399	134	12.2	22.1	6.4	.022	.023
59	7	50	230	-15.1	129	.261	127	.352	127	13.2	21.9	6.7	.019	.021
60	8	50	218	-16.5	122	.229	120	.311	120	14.9	22.7	6.9	.018	.020
61	7	50	195	-17.9	107	.201	105	.274	105	13.9	22.8	7.3	.016	.018
62	7	49	178	-18.9	99	.178	98	.243	98	15.2	24.0	7.5	.014	.016
63	5	46	160	-20.2	85	.155	84	.214	84	16.1	25.1	7.9	.014	.015
64	4	47	141	-21.7	71	.136	71	.189	71	17.7	26.1	8.0	.012	.014
65	3	47	122	-22.9	53	.119	53	.166	53	20.1	26.8	7.9	.010	.011

TABLE 10

1961 - 1975 NOVEMBER | 1969 - 1975

ROCKET-SONDE	MEAN COMPS S-N	WIND MPS W-E	TOTAL OBSNS	MEAN TEMP DEG C	TOTAL OBSNS	MEAN PRESS MBS	TOTAL OBSNS	MEAN DENSITY G/CU M	TOTAL OBSNS	WIND STD DEV. S-N	STD W-E	TEMP STD DEV.	PRESS STD DEV.	DENS. STD DEV.
25	1	9	227	-53.9	121	25.238	118	40.120	118	4.5	7.4	3.4	.928	1.558
26	1	12	250	-52.3	131	21.804	128	34.420	128	4.7	8.9	4.1	2.641	4.112
27	2	14	257	-50.4	135	18.696	132	29.255	132	5.3	9.6	4.2	2.233	3.407
28	2	16	258	-49.0	137	16.071	132	24.980	132	5.4	10.9	4.4	1.932	2.932
29	3	18	261	-47.8	139	13.820	135	21.374	135	5.9	10.9	4.3	1.651	2.521
30	3	20	262	-46.6	140	11.896	136	18.296	136	6.8	11.4	3.9	1.414	2.186
31	4	23	263	-45.1	141	10.251	137	15.673	137	6.8	12.4	4.1	1.212	1.885
32	4	26	264	-43.5	141	8.848	137	13.424	137	7.0	12.8	4.3	1.047	1.535
33	5	28	266	-41.6	142	7.637	137	11.497	137	7.3	13.4	4.8	.910	1.336
34	5	31	267	-39.9	142	6.604	137	9.869	137	8.9	14.1	5.1	.791	1.154
35	5	34	265	-38.4	142	5.714	136	8.482	136	9.7	13.0	5.5	.694	.977
36	4	37	267	-36.0	143	4.955	137	7.284	137	8.2	13.3	5.6	.606	.838
37	4	40	265	-33.8	139	4.297	133	6.259	133	8.0	13.4	6.0	.541	.730
38	3	41	268	-31.0	139	3.736	133	5.379	133	8.6	12.9	5.7	.479	.619
39	3	43	268	-28.1	141	3.257	135	4.635	135	8.3	13.1	5.8	.418	.543
40	3	45	267	-25.2	139	2.845	133	3.998	133	7.8	12.9	5.9	.371	.486
41	4	47	269	-22.1	140	2.486	134	3.450	134	7.9	13.1	6.5	.327	.420
42	5	49	268	-18.8	139	2.177	133	2.984	133	7.8	14.0	6.9	.291	.376
43	6	52	267	-15.7	139	1.909	132	2.585	132	8.7	14.3	6.8	.258	.322
44	7	54	265	-13.1	136	1.674	129	2.243	129	9.7	15.8	6.4	.229	.287
45	8	58	264	-10.8	135	1.475	129	1.960	129	10.5	16.2	6.2	.202	.249
46	10	60	259	-9.0	134	1.299	128	1.714	128	10.3	17.8	6.4	.181	.217
47	11	63	255	-7.4	134	1.144	128	1.500	128	10.3	19.4	6.6	.162	.190
48	12	66	255	-6.6	132	1.006	126	1.316	126	10.9	20.1	6.7	.145	.171
49	13	69	252	-5.7	131	.885	125	1.154	125	11.9	20.8	6.6	.130	.157
50	12	71	252	-5.6	129	.778	123	1.013	123	12.6	22.5	7.0	.117	.145
51	13	72	251	-5.6	129	.686	123	.895	123	14.3	23.0	6.9	.104	.131
52	14	74	247	-6.8	128	.616	122	.793	122	15.7	23.8	6.5	.092	.117
53	14	75	244	-7.8	125	.534	119	.700	119	14.8	24.5	6.5	.082	.105
54	14	76	238	-8.0	122	.470	115	.619	115	15.1	23.7	13.7	.073	.095
55	13	76	229	-10.0	120	.414	114	.548	114	15.8	24.2	7.2	.064	.084
56	13	76	218	-11.2	116	.364	111	.484	111	15.3	23.0	7.3	.057	.077
57	13	76	212	-12.1	115	.320	110	.427	110	14.4	22.9	7.4	.051	.067
58	13	75	206	-13.3	111	.281	106	.377	106	14.4	24.7	6.9	.045	.060
59	12	75	200	-14.4	107	.247	103	.333	103	16.6	26.2	7.1	.040	.054
60	12	74	178	-14.3	97	.218	92	.295	92	17.4	24.9	15.9	.038	.049
61	11	73	158	-16.7	88	.191	84	.261	84	16.3	25.3	7.5	.034	.044
62	11	71	133	-18.1	77	.166	73	.227	73	18.0	27.1	8.5	.014	.017
63	9	70	112	-18.3	64	.146	61	.200	61	18.4	27.3	9.4	.013	.016
64	6	62	90	-19.0	56	.128	54	.175	54	21.9	42.7	9.8	.012	.014
65	3	61	80	-20.1	34	.111	32	.154	32	24.9	41.0	10.4	.011	.012

ROCKET-SONDE	MEAN COMPS S-N	WIND MPS W-E	TOTAL OBSNS	1961 - 1975 DECEMBER MEAN TEMP DEG C	TOTAL OBSNS	MEAN PRESS MBS	TOTAL OBSNS	MEAN DENSITY G/CU M	TOTAL OBSNS	WIND STD DEV. S-N	WIND STD DEV. W-E	1969 - 1975 TEMP STD DEV.	PRESS STD DEV.	DENS. STD DEV.
25	7	10	120	-53.9	125	25.035	117	39.804	117	95.0	95.1	2.9	.694	1.189
26	3	11	236	-52.9	134	21.463	126	33.975	126	88.2	88.4	3.0	.587	.979
27	-1	8	243	-51.7	142	18.421	135	29.001	135	4.2	12.6	3.1	.489	.814
28	-8	11	249	-50.5	144	15.803	137	24.744	137	4.9	14.3	3.5	.424	.692
29	-8	13	249	-49.1	148	13.581	138	21.122	138	6.1	15.9	3.8	.379	.619
30	0	16	251	-47.8	148	11.682	139	18.066	139	6.3	17.6	4.3	.330	.518
31	2	18	252	-45.9	149	10.064	140	15.444	140	6.7	18.3	4.9	.294	.443
32	2	22	254	-43.8	151	8.679	141	13.206	141	7.8	19.6	5.5	.265	.391
33	3	27	251	-41.4	150	7.492	140	11.280	140	8.8	21.4	5.8	.241	.343
34	4	31	251	-38.7	150	6.476	140	9.638	140	9.2	21.9	6.8	.218	.325
35	5	35	252	-36.3	149	5.614	139	8.255	139	10.1	22.1	6.6	.200	.366
36	5	39	249	-33.4	148	4.874	138	7.090	138	10.7	22.9	7.2	.178	.285
37	5	43	249	-30.6	148	4.238	138	6.095	138	12.0	22.8	7.7	.160	.245
38	5	46	249	-27.7	147	3.692	138	5.249	138	12.1	21.8	7.7	.146	.199
39	5	49	248	-24.4	145	3.224	136	4.522	136	11.5	21.6	8.4	.135	.177
40	5	52	247	-21.2	146	2.818	137	3.887	137	14.7	19.8	9.1	.124	.226
41	6	54	245	-17.9	146	2.466	137	3.373	137	14.4	19.9	10.2	.116	.140
42	7	56	245	-14.8	146	2.162	137	2.505	137	14.7	20.0	11.0	.108	.134
43	9	58	242	-11.3	144	1.902	135	2.580	135	13.9	20.0	11.8	.101	.121
44	11	61	241	-8.1	143	1.674	134	2.206	134	14.1	20.7	10.9	.094	.106
45	12	64	239	-6.0	144	1.475	135	1.930	135	15.4	20.0	10.2	.086	.094
46	13	66	235	-4.7	141	1.301	132	1.692	132	15.5	21.7	9.5	.078	.085
47	14	67	235	-4.3	141	1.145	132	1.487	132	16.0	22.9	9.6	.073	.078
48	15	68	234	-3.3	139	1.010	130	1.307	130	16.4	22.9	9.8	.067	.072
49	15	69	232	-3.4	139	.892	130	1.155	130	17.1	23.0	9.1	.062	.066
50	15	70	234	-4.0	136	.788	128	1.021	128	18.0	23.8	8.3	.056	.059
51	15	70	227	-4.8	133	.696	125	.904	125	19.0	26.9	7.9	.051	.055
52	15	72	221	-5.6	131	.615	124	.801	124	18.2	26.4	7.7	.045	.051
53	15	73	216	-7.4	129	.543	123	.712	123	18.6	26.1	7.4	.042	.047
54	15	71	213	-8.6	129	.478	123	.631	123	19.6	28.8	7.6	.039	.043
55	15	73	208	-9.8	127	.422	121	.558	121	20.2	26.4	7.5	.034	.040
56	15	74	200	-11.1	120	.371	114	.494	114	20.2	25.8	7.6	.031	.037
57	14	74	186	-12.8	115	.325	109	.435	109	20.0	26.4	7.5	.027	.033
58	13	74	182	-14.3	113	.286	107	.383	107	19.8	27.4	7.5	.023	.030
59	13	74	172	-15.7	108	.250	103	.338	103	20.1	29.0	7.9	.022	.027
60	13	72	161	-17.0	101	.220	96	.298	96	21.0	24.7	8.2	.019	.024
61	13	74	146	-18.5	82	.190	78	.260	78	20.6	26.7	8.4	.017	.020
62	11	74	131	-18.8	75	.167	72	.229	72	19.4	32.8	8.9	.016	.019
63	12	75	112	-21.0	64	.146	64	.202	64	20.7	32.0	10.8	.014	.017
64	13	79	92	-21.9	42	.125	42	.174	42	21.8	33.9	10.6	.012	.015
65	14	80	72	-21.6	29	.110	29	.153	29	22.0	35.5	10.9	.012	.013

TABLE 12

SECTION I PART 2

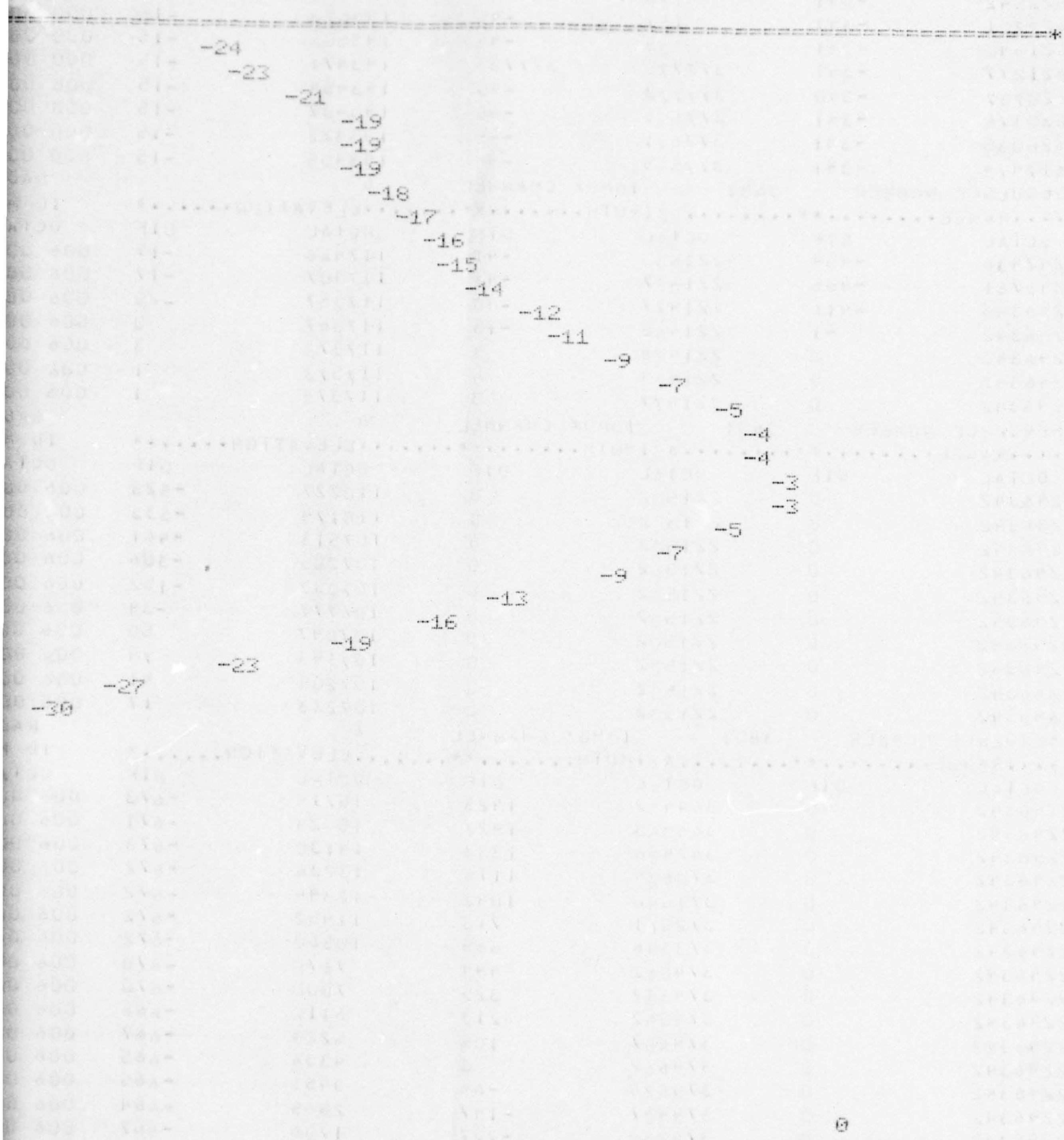
Vertical profiles of Mean Temperatures and Mean E-W Component Winds at WSMR by the month for 1961 to 1975 are shown in Figures 2 through 25.

Z KM TEMPERATURE CELCIUS JANUARY **FIGURE 2**

Z KM	TEMPERATURE CELCIUS
65	-24
64	-23
63	-21
62	-19
61	-19
60	-19
59	-18
58	-1
57	
56	
55	
54	
53	
52	
51	
50	
49	
48	
47	
46	
45	
44	
43	
42	
41	
40	-19
39	-23
38	-27
37	-30
36	-33
35	-36
34	-39
33	-41
32	-44
31	-45
30	-48
29	-49
28	-51
27	-52
26	-54
25	-55

UARY FIGURE 2

2



SEQUENCE NUMBER 3001 IOMUX CHANNEL 0 RAD

RANGE OCTAL	RANGE DIF	AZIMUTH OCTAL	AZIMUTH DIF	ELEVATION OCTAL	ELEVATION DIF	ID M OCTA
2622542	-341	146	-45	143540	-14	000 00
2622201	-341	101	-45	143523	-15	000 00
2621640	-341	35	-44	143506	-15	000 00
2621277	-341	377770	377733	143471	-15	000 00
2620737	-340	377723	-45	143454	-15	000 00
2620376	-341	377656	-45	143437	-15	000 00
2620035	-341	377611	-45	143422	-15	000 00
2617474	-341	377545	-44	143405	-15	000 00

SEQUENCE NUMBER 3601 IOMUX CHANNEL 6 RAD

RANGE OCTAL	RANGE DIF	AZIMUTH OCTAL	AZIMUTH DIF	ELEVATION OCTAL	ELEVATION DIF	ID M OCTA
2247436	-454	221600	-41	117426	-17	006 00
2246761	-455	221537	-41	117407	-17	006 00
2246343	-416	221477	-40	117367	-20	006 00
2246342	-1	221462	-15	117367	0	006 00
2246342	0	221466	4	117372	3	006 00
2246342	0	221474	6	117373	1	006 00
2246342	0	221477	3	117374	1	006 00

SEQUENCE NUMBER 3601 IOMUX CHANNEL 6 RAD

RANGE OCTAL	RANGE DIF	AZIMUTH OCTAL	AZIMUTH DIF	ELEVATI OCTAL	F	ID M OCTA
2246342	0	221502	0	110727	3	006 00
2246342	0	221502	0	110174	3	006 00
2246342	0	221502	0	107513	1	006 00
2246342	0	221502	0	107205	6	006 00
2246342	0	221502	0	107033	2	006 00
2246342	0	221502	0	106777	4	006 00
2246342	0	221502	0	107047	0	006 00
2246342	0	221502	0	107143	4	006 00
2246342	0	221502	0	107204	1	006 00
2246342	0	221502	0	107223	7	006 00

SEQUENCE NUMBER 3801 IOMUX CHANNEL 6 RAD

RANGE OCTAL	RANGE DIF	AZIMUTH OCTAL	AZIMUTH DIF	ELEVATIO OCTAL	F	ID M OCTA
2246342	0	364432	1423	15714	3	006 00
2246342	0	366053	1421	15023	1	006 00
2246342	0	367406	1333	14130	3	006 00
2246342	0	370604	1176	13236	2	006 00
2246342	0	371646	1042	12344	2	006 00
2246342	0	372561	713	11452	-672	006 00
2246342	0	373346	565	10560	-672	006 00
2246342	0	374012	444	7670	-670	006 00
2246342	0	374337	325	7000	-670	006 00
2246342	0	374552	213	6112	-666	006 00
2246342	0	374657	105	5223	-667	006 00
2246342	0	374662	3	4336	-665	006 00
2246342	0	374576	-64	3451	-665	006 00
2246342	0	374427	-147	2565	-664	006 00
2246342	0	374200	-227	1706	-657	006 00
2246342	0	373674	-304	1150	-536	006 00
2246342	0	373320	-354	554	-374	006 00
2246342	0	372716	-402	314	-240	006 00
2246342	0	372375	-321	174	-120	006 00
2246342	0	372152	-223	132	-42	006 00
2246342	0	372024	-126	104	-26	006 00
2246342	0	371772	-32	50	-34	006 00
2246342	0	372005	13	10	-40	006 00
2246342	0	372023	16	377753	377743	006 00
2246342	0	372026	3	377723	-30	006 00
2246342	0	372020	-6	377700	-23	006 00
2246342	0	372007	-11	377663	-15	006 00

2

0

RADAR R112

••ELEVATION••••••• OCTAL	DIF	ID MODE OCTAL	TIME OCTAL	TDIF OCTAL	SUBSQN DEC	ERROR RAEH
143540	-14	000 00127	404671154	62	3015	0000
143523	-15	000 00053	404671236	62	3016	0000
143506	-15	000 00127	404671320	62	3017	0000
143471	-15	000 00053	404671402	62	3018	0100
143454	-15	000 00127	404671464	62	3019	0100
143437	-15	000 00053	404671546	62	3020	0000
143422	-15	000 00127	404671630	62	3021	0000
143405	-15	000 00053	404671712	62	3022	0000

6

RADAR R125

••ELEVATION••••••• OCTAL	DIF	ID MODE OCTAL	TIME OCTAL	TDIF OCTAL	SUBSQN DEC	ERROR RAEH
117426	-17	006 00127	404772736	62	3688	0000
117407	-17	006 00053	404773020	62	3689	0000
117367	-20	006 00127	404773102	62	3690	0000
117367	0	006 00053	404773164	62	3691	1000
117372	3	006 00127	404773246	62	3692	0000
117373	1	006 00053	404773330	62	3693	0000
117374	1	006 00127	404773412	62	3694	0000

6

RADAR R125

••ELEVATI • OCTAL	F	ID MODE OCTAL	TIME OCTAL	TDIF OCTAL	SUBSQN DEC	ERROR RAEH
110727	3	006 00127	405001612	62	3758	0000
110174	3	006 00053	405001674	62	3759	0000
107513	1	006 00127	405001756	62	3760	0000
107205	6	006 00053	405002040	62	3761	0010
107033	2	006 00127	405002122	62	3762	0010
106777	4	006 00053	405002204	62	3763	0010
107047	0	006 00127	405002266	62	3764	0010
107143	4	006 00053	405002350	62	3765	0000
107204	1	006 00127	405002432	62	3766	0000
107223	7	006 00053	405002514	62	3767	0000

6

RADAR R125

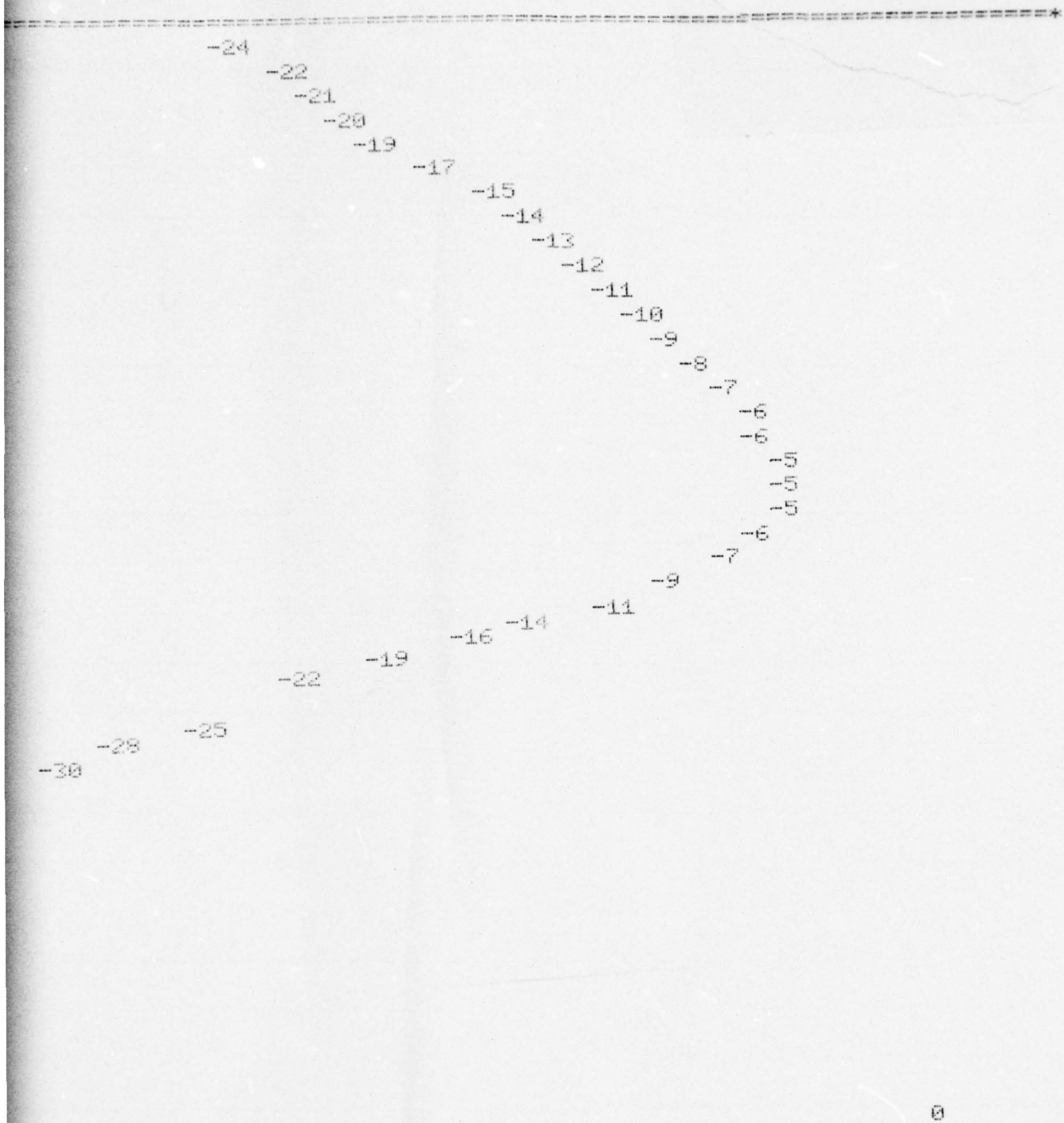
DO NOT PHOTOGRAPH

••ELEVATIO • OCTAL	F	ID MODE OCTAL	TIME OCTAL	TDIF OCTAL	SUBSQN DEC	ERROR RAEH
15714	3	006 00127	405012436	62	3848	0000
15023	1	006 00053	405012520	62	3849	0000
14130	3	006 00127	405012602	62	3850	0000
13236	2	006 00053	405012664	62	3851	0100
12344	2	006 00127	405012746	62	3852	0100
11452	-672	006 00053	405013030	62	3853	0100
10560	-672	006 00127	405013112	62	3854	0100
7670	-670	006 00053	405013174	62	3855	0100
7000	-670	006 00127	405013256	62	3856	0100
6112	-666	006 00053	405013340	62	3857	0100
5223	-667	006 00127	405013422	62	3858	0100
4336	-665	006 00053	405013504	62	3859	0100
3451	-665	006 00127	405013566	62	3860	0000
2565	-664	006 00053	405013650	62	3861	0000
1706	-657	006 00127	405013732	62	3862	0000
1150	-536	006 00053	405014014	62	3863	0010
554	-374	006 00127	405014076	62	3864	0010
314	-240	006 00053	405014160	62	3865	0010
174	-120	006 00127	405014242	62	3866	0010
132	-42	006 00053	405014324	62	3867	0000
104	-26	006 00127	405014406	62	3868	0000
50	-34	006 00053	405014470	62	3869	0000
10	-40	006 00127	405014552	62	3870	0000
377753	377743	006 00053	405014634	62	3871	0010
377723	-30	006 00127	405014716	62	3872	0010
377700	-23	006 00053	405015000	62	3873	0000
377663	-15	006 00127	405015062	62	3874	0000
377650	-13	006 00053	[illegible]	[illegible]	[illegible]	[illegible]

FIGURE 3

Z KM
TEMPERATURE CELCIUS
FEBRUARY
65 64 63 62 61 60 59 58 57 56 55 54 53 52 51 50 49 48 47 46 45 44 43 42 41 40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25
-24 -22 -21 -20 -19
-19 -22 -25 -28 -30 -33 -37 -39 -43 -46 -48 -50 -52 -54 -55

ARY FIGURE 3



2

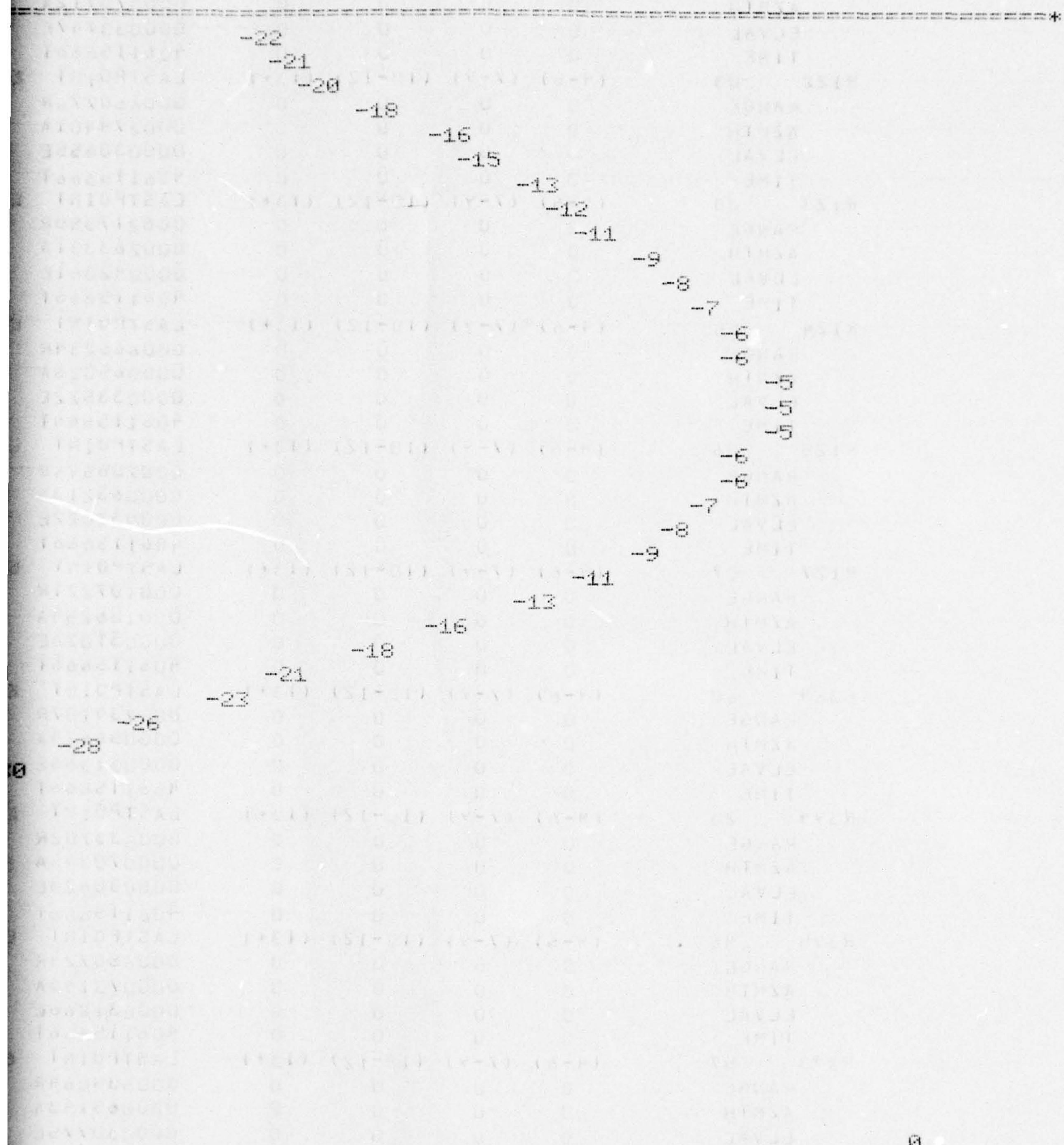
Z KM   TEMPERATURE CELCIUS   MARCH   **FIGURE 4**

Z KM	TEMPERATURE CELCIUS
65	-22
64	-21
63	-20
62	-18
61	
60	
59	
58	
57	
56	
55	
54	
53	
52	
51	
50	
49	
48	
47	
46	
45	
44	
43	
42	
41	
40	-18
39	-21
38	-23
37	-26
36	-28
35	-30
34	-33
33	-36
32	-38
31	-41
30	-44
29	-46
28	-48
27	-50
26	-52
25	-53

#

FIGURE 4

2



1

***SECOND DIFFERENCE TABLE FOR 10 RADARS

		(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTA
R112	00	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTA
	RANGE	0	0	0	0	000631457R			
	AZMTH	0	0	0	0	000370712A			
	ELVAL	0	0	0	0	000033747E			
	TIME	0	0	0	0	406115666T	0	200	0
R122	03	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTA
	RANGE	0	0	0	0	000660776R			
	AZMTH	0	0	0	0	000274401A			
	ELVAL	0	0	0	0	000030655E			
	TIME	0	0	0	0	406115666T	0	200	0
R123	04	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTA
	RANGE	2	0	0	0	000217350R			
	AZMTH	0	0	0	0	000263331A			
	ELVAL	0	0	0	0	000042061E			
	TIME	0	0	0	0	4061[illegible]	0	200	0
R124	05	(4-6)	(7-9)	(10-12)	(13+)	LAST	EOM	SAMPL	IDTA
	RANGE	0	0	0	0	0006			
	AZMTH	0	0	0	0	0000			
	ELVAL	0	0	0	0	0000			
	TIME	0	0	0	0	4061	0	200	0
R125	06	(4-6)	(7-9)	(10-12)	(13+)	LAST	EOM	SAMPL	IDTA
	RANGE	0	0	0	0	0007			
	AZMTH	0	0	0	0	0000			
	ELVAL	0	0	0	0	0000			
	TIME	0	0	0	0	4061	0	200	0
R127	07	(4-6)	(7-9)	(10-12)	(13+)	LAST	EOM	SAMPL	IDTA
	RANGE	0	0	0	0	0001			
	AZMTH	0	0	0	0	0001			
	ELVAL	0	0	0	0	0000			
	TIME	0	0	0	0	4061	0	200	0
R364	60	(4-6)	(7-9)	(10-12)	(13+)	LAST	EOM	SAMPL	IDTA
	RANGE	0	0	0	0	0007			
	AZMTH	0	0	0	0	0000			
	ELVAL	0	0	0	0	0000			
	TIME	0	0	0	0	4061	0	200	0
R394	20	(4-6)	(7-9)	(10-12)	(13+)	LAST	EOM	SAMPL	IDTA
	RANGE	0	0	0	0	0005			
	AZMTH	0	0	0	0	0000			
	ELVAL	0	0	0	0	0000[illegible]			
	TIME	0	0	0	0	406115666T	0	200	0
R395	46	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTA
	RANGE	0	0	0	0	000650724R			
	AZMTH	0	0	0	0	000073160A			
	ELVAL	0	0	0	0	000031266E			
	TIME	0	0	0	0	406115666T	0	200	0
R393	57	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTA
	RANGE	0	0	0	0	000535064R			
	AZMTH	0	0	0	0	000065143A			
	ELVAL	0	0	0	0	000030775E			
	TIME	0	0	0	0	406115666T	0	200	0

**MISSING FRAMES = 0

DO NOT PHOTOGRAPH

```
RS                                   SEQ NUMBER    5201
13+)   LASTPOINT   EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
0      000631457R
0      000370712A
0      000033747E
0      406115666T   0    200     0      0      00     0
13+)   LASTPOINT   EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
0      000660776R
0      000274401A
0      000030655E
0      406115666T   0    200     0      0      00     3
13+)   LASTPOINT   EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
0      000217350R
0      000263331A
0      000042061E
0      4061         0    200     0      0      00     4
13+)   LAST        EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
0      0006
0      0000
0      0000
0      4061         0    200     0      0      00     5
13+)   LAST        EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
0      0007
0      0000
0      0000
0      4061         0    200     0      0      00     6
13+)   LAST        EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
0      0001
0      0001
0      0000
0      4061         0    200     0      0      00     7
13+)   LAST        EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
0      0007
0      0000
0      0000
0      4061         0    200     0      0      05     9
13+)   LAST        EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
0      0005
0      0000
0      0000
0      406115666T   0    200     0      0      05    10
13+)   LASTPOINT   EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
0      000650724R
0      000073160A
0      000031266E
0      406115666T   0    200     0      0      05    14
13+)   LASTPOINT   EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
0      000535064R
0      000065143A
0      000030775E
0      406115666T   0    200     0      0      00    15
```

DO NOT PHOTOGRAPH

2

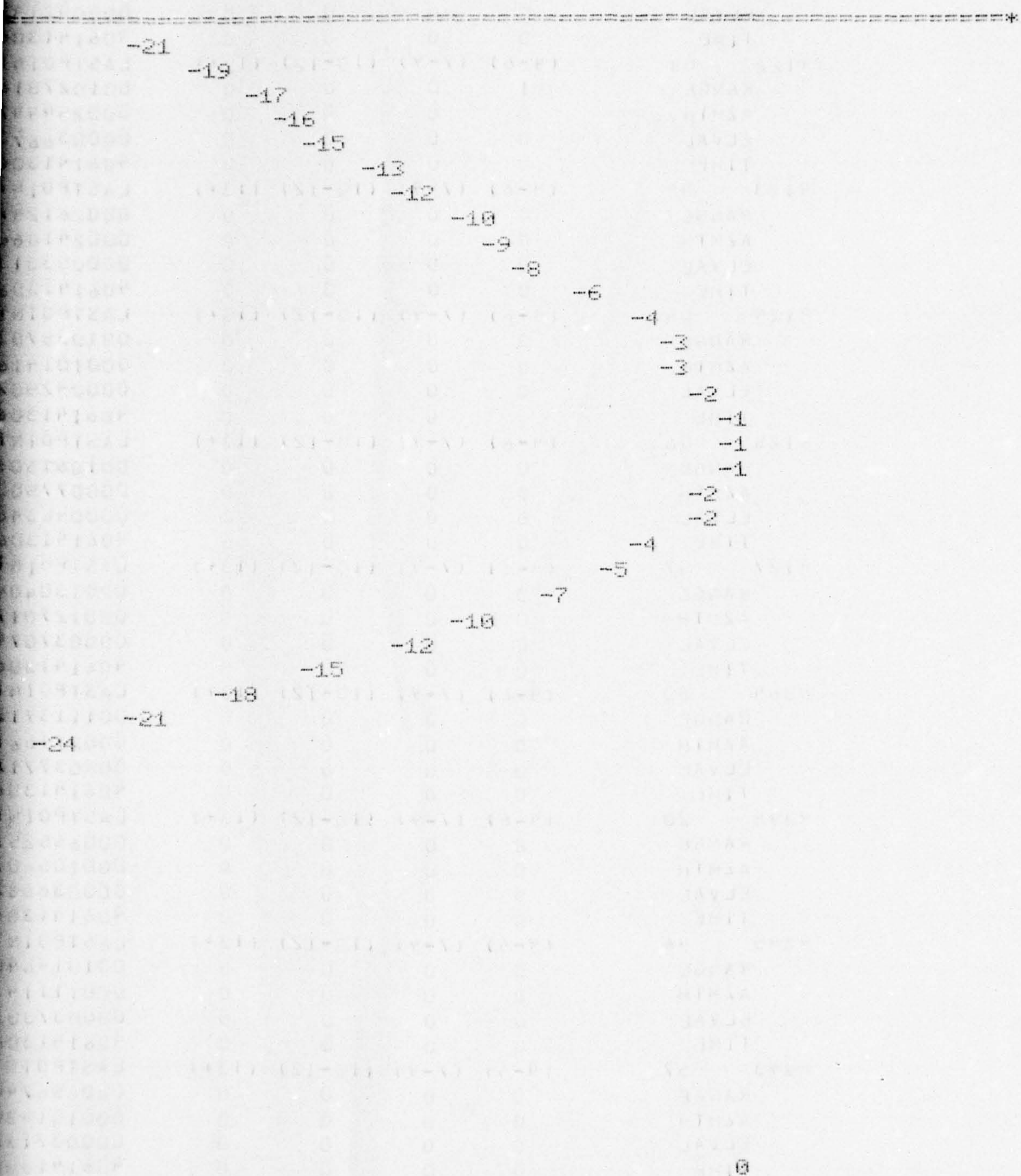
Z KM TEMPERATURE CELCIUS APRIL **FIGURE 5**

Z KM	TEMPERATURE CELCIUS
65	-21
64	-19
63	-17
62	-16
61	-1
60	
59	
58	
57	
56	
55	
54	
53	
52	
51	
50	
49	
48	
47	
46	
45	
44	
43	
42	
41	
40	-1
39	-18
38	-21
37	-24
36	-27
35	-29
34	-32
33	-34
32	-37
31	-40
30	-42
29	-44
28	-46
27	-48
26	-50
25	-52

#

FIGURE 5

2



***SECOND DIFFERENCE TABLE FOR 10 RADARS SEQ N

		(4-6)	(7-9)	(10-12)	(13+)					
R112	00	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MOD
	RANGE	0	0	0	0	000771736R				
	AZMTH	0	0	0	2	000006114A				
	ELVAL	0	0	0	0	000042133E				
	TIME	0	0	0	0	406141306T	0	200	0	0
R122	03	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MOD
	RANGE	1	0	0	0	001027016R				
	AZMTH	0	0	0	0	000254447A				
	ELVAL	0	0	0	0	000036673E				
	TIME	0	0	0	0	406141306T	0	200	0	0
R123	04	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MOD
	RANGE	0	0	0	0	000261247R				
	AZMTH	0	0	0	0	000241066A				
	ELVAL	0	0	0	0	000053013E				
	TIME	0	0	0	0	406141306T	0	200	0	0
R124	05	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MOD
	RANGE	0	0	0	0	5703R				
	AZMTH	0	0	0	0	416A				
	ELVAL	0	0	0	0	502E				
	TIME	0	0	0	0	306T	0	200	0	0
R125	06	(4-6)	(7-9)	(10-12)	(13+)	INT	EOM	SAMPL	IDTAL	MOD
	RANGE	0	0	0	0	506R				
	AZMTH	0	0	0	0	500A				
	ELVAL	0	0	0	0	346E				
	TIME	0	0	0	0	306T	0	200	0	0
R127	07	(4-6)	(7-9)	(10-12)	(13+)	INT	EOM	SAMPL	IDTAL	MOD
	RANGE	0	0	0	0	404R				
	AZMTH	0	0	0	0	017A				
	ELVAL	0	0	0	0	074E				
	TIME	0	0	0	0	306T	0	200	0	0
R364	60	(4-6)	(7-9)	(10-12)	(13+)	INT	EOM	SAMPL	IDTAL	MOD
	RANGE	0	0	0	0	712R				
	AZMTH	0	0	0	0	561A				
	ELVAL	0	0	0	0	712E				
	TIME	0	0	0	0	306T	0	200	0	0
R394	20	(4-6)	(7-9)	(10-12)	(13+)	INT	EOM	SAMPL	IDTAL	MOD
	RANGE	0	0	0	0	251R				
	AZMTH	0	0	0	0	01A				
	ELVAL	0	0	0	0	32E				
	TIME	0	0	0	0	06T	0	200	0	0
R395	46	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MOD
	RANGE	0	0	0	0	001014640R				
	AZMTH	0	0	0	0	000111141A				
	ELVAL	0	0	0	0	000037301E				
	TIME	0	0	0	0	406141306T	0	200	0	0
R393	57	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MOD
	RANGE	0	0	0	0	000656740R				
	AZMTH	0	0	0	0	000101430A				
	ELVAL	0	0	0	0	000037133E				
	TIME	0	0	0	0	406141306T	0	200	0	4

**MISSING FRAMES = 0

DO NOT PHOTOGRAPH

SEQ NUMBER 5401

2

A

```
LASTPOINT   EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
000771736R
000006114A
000042133E
406141306T   0    200     0      0      00      0
LASTPOINT   EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
001027016R
000254447A
000036673E
406141306T   0    200     0      0      00      3
LASTPOINT   EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
000261247R
000241066A
000053013E
406141306T   0    200     0      0      00      4
LASTPOINT   EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
      5703R
       416A
       502E
       306T   0    200     0      0      00      5
       INT  EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
       506R
       500A
       346E
       306T   0    200     0      0      00      6
       INT  EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
       404R
       017A
       074E
       306T   0    200     0      0      00      7
       INT  EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
       712R
       561A
       712E
       306T   0    200     0      0      05      9
       INT  EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
       251R
       501A
       532E
       306T   0    200     0      0      05     10
LASTPOINT   EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
001014640R
000111141A
000037301E
406141306T   0    200     0      0      05     14
LASTPOINT   EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
000656740R
000101430A
000037133E
406141306T   0    200     0      0      00     15
```

Z KM TEMPERATURE CELCIUS MAY **FIGURE 6**

Z KM	TEMPERATURE CELCIUS
65	-29
64	-25
63	-22
62	-19
61	-18
60	-15
59	-13
58	-11
57	-10
56	
55	
54	
53	
52	
51	
50	
49	
48	
47	
46	
45	
44	
43	
42	-[illegible]
41	-12
40	-15
39	-18
38	-21
37	-24
36	-27
35	-29
34	-32
33	-34
32	-36
31	-39
30	-41
29	-43
28	-45
27	-47
26	-49
25	-50

#

URE 6

==*

2

```
 -19
     -18
             -15
                   -13
                        -11
                            -10
                                  -8
                                         -6
                                           -5
                                                 -3
                                                     -2
                                                          0
                                                                4
                                                          0
                                                                   5
                                                          0
                                                       -1
                                                    -2
                                             -4
                                         -6
                               -9
                       -12
             -15
     -18
21
                                                         0
```

***SECOND DIFFERENCE TABLE FOR 10 RADARS SEQ

R112	00	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MO
RANGE		0	0	0	0	001132225R				
AZMTH		0	0	0	0	000023004A				
ELVAL		0	0	0	0	000050415E				
TIME		0	0	0	0	406164726T	0	200	0	
R122	03	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MO
RANGE		0	0	0	0	001175043R				
AZMTH		0	0	0	0	000234500A				
ELVAL		0	0	0	0	000045041E				
TIME		0	0	0	0	406164726T	0	200	0	
R123	04	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MO
RANGE		2	0	0	0	000323117R				
AZMTH		0	0	0	0	000216563A				
ELVAL		0	0	0	0	000063703E				
TIME		0	0	0	0	406164726T	0	200	0	
R124	05	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MO
RANGE		0	0	0	0	205316R				
AZMTH		0	0	0	0	115565A				
ELVAL		0	0	0	0	052011E				
TIME		0	0	0	0	164726T	0	200	0	
R125	06	(4-6)	(7-9)	(10-12)	(13+)	POINT	EOM	SAMPL	IDTAL	MO
RANGE		0	0	0	0	234460R				
AZMTH		0	0	0	0	114113A				
ELVAL		0	0	0	0	046746E				
TIME		0	0	0	0	164726T	0	200	0	
R127	07	(4-6)	(7-9)	(10-12)	(13+)	POINT	EOM	SAMPL	IDTAL	MO
RANGE		0	0	0	0	151561R				
AZMTH		0	0	0	0	47510A				
ELVAL		0	0	0	0	45135E				
TIME		0	0	0	0	64726T	0	200	0	
R364	60	(4-6)	(7-9)	(10-12)	(13+)	POINT	EOM	SAMPL	IDTAL	MO
RANGE		0	0	0	0	73513R				
AZMTH		0	0	0	0	04504A				
ELVAL		0	0	0	0	46322E				
TIME		0	0	0	0	64726T	0	200	0	
R394	20	(4-6)	(7-9)	(10-12)	(13+)	POINT	EOM	SAMPL	IDTAL	MO
RANGE		0	0	0	0	76622R				
AZMTH		0	0	0	0	23010A				
ELVAL		0	0	0	0	44776E				
TIME		0	0	0	0	64726T	0	200	0	
R395	46	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MO
RANGE		0	0	0	0	001160556R				
AZMTH		0	0	0	0	000127106A				
ELVAL		0	0	0	0	000045331E				
TIME		0	0	0	0	406164726T	0	200	0	
R393	57	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MO
RANGE		0	0	0	0	001000621R				
AZMTH		0	0	0	0	000115723A				
ELVAL		0	0	0	0	000045361E				
TIME		0	0	0	0	406164726T	0	200	0	

**MISSING FRAMES = 0

DO NOT PHOTOGRAPH

2

```
                       SEQ NUMBER    5601
LASTPOINT  EOM SAMPL IDTAL MODTL  MODE SUBCH
001132725R
000623004A
000050415E
406164726T   0   200   0     0    00     0
LASTPOINT  EOM SAMPL IDTAL MODTL  MODE SUBCH
001175043R
000249500A
000045041E
406164726T   0   200   0     0    00     3
LASTPOINT  EOM SAMPL IDTAL MODTL  MODE SUBCH
000323117R
000216563A
000063703E
406164726T   0   200   0     0    00     4
LASTPOINT  EOM SAMPL IDTAL MODTL  MODE SUBCH
   205316R
   115565A
   352011E
   164726T   0   200   0     0    00     5
   TPOINT  EOM SAMPL IDTAL MODTL  MODE SUBCH
   234460R
   114113A
   346746E
   164726T   0   200   0     0    00     6
   POINT   EOM SAMPL IDTAL MODTL  MODE SUBCH
   151561R
   147510A
   345135E
    64726T   0   200   0     0    00     7
    POINT  EOM SAMPL IDTAL MODTL  MODE SUBCH
   173513R
    04504A
   146322E
    64726T   0   200   0     0    05     9
    POINT  EOM SAMPL IDTAL MODTL  MODE SUBCH
    76622R
    23010A
    44776E
    64726T   0   200   0     0    05    10
LASTPOINT  EOM SAMPL IDTAL MODTL  MODE SUBCH
001160556R
000127106A
000045331E
406164726T   0   200   0     0    05    14
LASTPOINT  EOM SAMPL IDTAL MODTL  MODE SUBCH
001000621R
000115723A
000045361E
406164726T   0   200   0     0    00    15
```

Z KM	TEMPERATURE CELCIUS — JUNE — FIGURE 7
65	-29
64	-25
63	-23
62	-21
61	-19
60	-16
59	-14
58	
57	
56	
55	
54	
53	
52	
51	
50	
49	
48	
47	
46	
45	
44	
43	
42	
41	
40	-14
39	-18
38	-20
37	-23
36	-26
35	-28
34	-31
33	-33
32	-35
31	-38
30	-40
29	-42
28	-43
27	-45
26	-47
25	-49

#

FIGURE 7

2

```
============================================================================*
-25
   -23
       -21
           -19
                 -16
                     -14
                         -12
                             -10
                                 -8
                                   -7
                                       -5
                                          -3
                                            -2
                                              -1
                                                  0
                                                  0
                                                  0
                                                  0
                                              -1
                                            -2
                                        -4
                                    -6
                              -9
                         -12
                     -14
              -18
          -20
    -23
6

                                                 0
```

***SECOND DIFFERENCE TABLE FOR 3 RADARS SE

R113	01	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL
RANGE		0	0	0	0	001016341R			
AZMTH		0	0	0	0	000025267A			
ELVAL		0	0	0	0	000032171E			
TIME		0	0	0	0	4112305449T	0	200	0
R114	02	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL
RANGE		0	0	0	0	000312654R			
AZMTH		0	0	0	0	000031325A			
ELVAL		0	0	0	0	000015375E			
TIME		0	0	0	0	4112305444T	0	200	0
R393	57	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL
RANGE		0	0	0	0	000345472R			
AZMTH		0	0	0	0	000042662A			
ELVAL		0	0	0	0	000017627E			
TIME		0	0	0	0	4112305444T	0	200	0

**MISSING FRAMES = 0

SEQ NUMBER 7201

2

LASTPOINT	EOM	SAMPL	IDTAL	MODTL	MODE	SUBCH
001016341R						
000025267A						
000032171E						
411230544T	0	200	0	0	00	1

LASTPOINT	EOM	SAMPL	IDTAL	MODTL	MODE	SUBCH
000312654R						
000031325A						
000015375E						
411230544T	0	200	0	0	00	2

LASTPOINT	EOM	SAMPL	IDTAL	MODTL	MODE	SUBCH
000345472R						
000042662A						
000017627E						
411230544T	0	200	0	0	00	15

Z KM TEMPERATURE CELCIUS JULY **FIGURE 8**

Z KM	TEMPERATURE CELCIUS
65	-25
64	-23
63	-22
62	-22
61	-20
60	-19
59	-18
58	-1
57	
56	
55	
54	
53	
52	
51	
50	
49	
48	
47	
46	
45	
44	
43	
42	
41	
40	-17
39	-20
38	-23
37	-25
36	-28
35	-31
34	-33
33	-34
32	-37
31	-39
30	-40
29	-42
28	-44
27	-46
26	-48
25	-50

#

FIGURE 8

```
================================================================================*
-25
    -23
        -22
        -22
              -20
                  -19
                       -18
                              -16
                                     -14
                                            -12
                                                     -10
                                                         -9
                                                               -7
                                                                   -6
                                                                          -4
                                                                          -4
                                                                               -3
                                                                               -3
                                                                          -4
                                                                          -4
                                                                     -5
                                                              -7
                                                        -9
                                              -12
                                       -14
                             -17
                 -20
        -23
-25
                                                                                        0
```

2

```
***SECOND DIFFERENCE TABLE FOR   10 RADARS                                              S
R112     00        (4-6)  (7-9)  (10-12)  (13+)     LASTPOINT   EOM  SAMPL  IDTAL
    RANGE            0      0       0       0       002234406R
    AZMTH            0      0       0       0       000137157A
    ELVAL            0      0       0       0       000116746E
    TIME             0      0       0       0       406352066T   0    200     0
R122     03        (4-6)  (7-9)  (10-12)  (13+)     LASTPOINT   EOM  SAMPL  IDTAL
    RANGE            0      0       0       0       002341243R
    AZMTH            0      0       0       0       000075300A
    ELVAL            0      3       0       0       000111653E
    TIME             0      0       0       0       406352066T   0    200     0
R123     04        (4-6)  (7-9)  (10-12)  (13+)     LASTPOINT   EOM  SAMPL  IDTAL
    RANGE            2      0       0       0       000636146R
    AZMTH            0      0       0       0       000042200A
    ELVAL            0      0       0       0       000146515E
    TIME             0      0       0       0       406352066T   0    200     0
R124     05        (4-6)  (7-9)  (10-12)  (13+       STPOINT    EOM  SAMPL  IDTAL
    RANGE            0      0       0       0         2362464R
    AZMTH            0      0       0       0         0231321A
    ELVAL            0      0       0       0         0126021E
    TIME             0      0       0       0         5352066T   0    200     0
R125     06        (4-6)  (7-9)  (10-12)  (13        STPOINT    EOM  SAMPL  IDTAL
    RANGE            0      0       0       0         2436243R
    AZMTH            0      0       0       0         0227276A
    ELVAL            0      0       0       0         0116636E
    TIME             0      0       0       0         5352066T   0    200     0
R127     07        (4-6)  (7-9)  (10-12)  (13        STPOINT    EOM  SAMPL  IDTAL
    RANGE            2      0       0       0         0321041R
    AZMTH            0      0       0       0         0313247A
    ELVAL            0      0       0       0         0112261E
    TIME             0      0       0       0         5352066T   0    200     0
R364     60        (4-6)  (7-9)  (10-12)  (13        STPOINT    EOM  SAMPL  IDTAL
    RANGE            0      0       0       0         2532204R
    AZMTH            0      0       0       0         0206355A
    ELVAL            0      0       0       0         0120060E
    TIME             0      0       0       0         5352066T   0    200     0
R394     20        (4-6)  (7-9)  (10-12)  (13        STPOINT    EOM  SAMPL  IDTAL
    RANGE            0      0       0       0         1747446R
    AZMTH            0      0       0       0         0242651A
    ELVAL            0      0       0       0         0114651E
    TIME             0      0       0       0        06352066T   0    200     0
R395     46        (4-6)  (7-9)  (10-12)  (13+)     LASTPOINT   EOM  SAMPL  IDTAL
    RANGE            0      0       0       0       002310017R
    AZMTH            0      0       0       0       000252765A
    ELVAL            0      0       0       0       000112760E
    TIME             0      0       0       0       406352066T   0    200     0
R393     57        (4-6)  (7-9)  (10-12)  (13+)     LASTPOINT   EOM  SAMPL  IDTAL
    RANGE            0      0       0       0       001753755R
    AZMTH            0      0       0       0       000230552A
    ELVAL            0      0       0       0       000121374E
    TIME             0      0       0       0       406352066T   0    200     0
    **MISSING FRAMES =   0
```

2

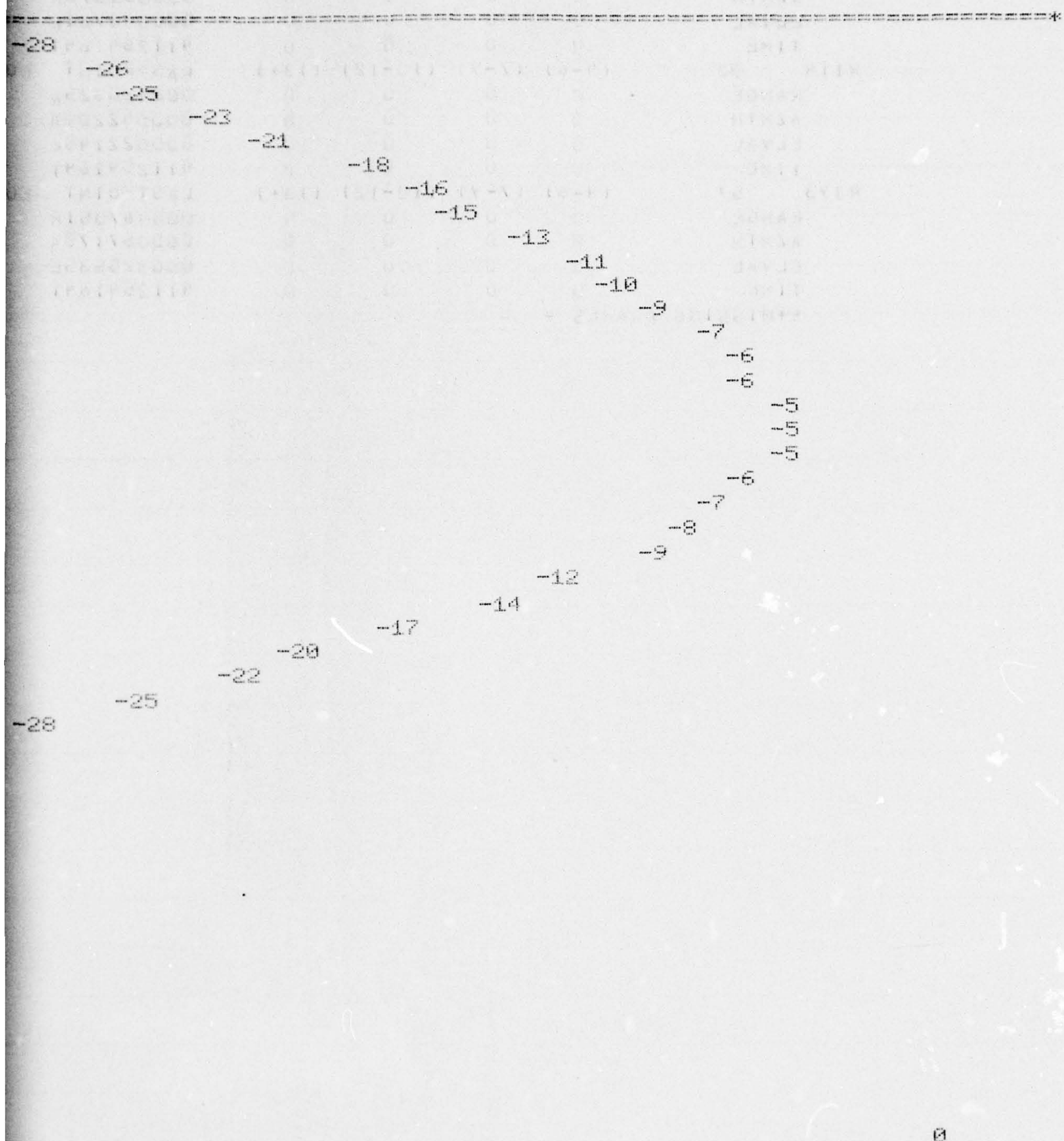
```
                        SEQ NUMBER    6801
+)  LASTPOINT   EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
    002234406R
    000137157A
    000116746E
    406352066T    0    200     0      0     00      0
+)  LASTPOINT   EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
    002341243R
    000075300A
    000111653E                                           E
    406352066T    0    200     0      0     00      3
+)  LASTPOINT   EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
    000636146R
    000042200A
    000146515E
    406352066T    0    200     0      0     00      4
     ASTPOINT   EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
      2362464R
      0231321A
      0126021E
      5352066T    0    200     0      0     00      5
      STPOINT   EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
      2436243R
      0227276A
      0116636E
      5352066T    0    200     0      0     00      6
      STPOINT   EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
      0321041R
      0313247A
      0112261E
      5352066T    0    200     0      0     00      7
      STPOINT   EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
      2532204R
      0206355A
      0120060E
      5352066T    0    200     0      0     05      9
      STPOINT   EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
      1747446R
      0242651A
      0114651E
    U06352066T    0    200     0      0     05     10
+)  LASTPOINT   EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
    002310017R
    000252765A
    000112760E
    406352066T    0    200     0      0     05     14
+)  LASTPOINT   EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
    001753755R
    000230552A
    000121374E
    406352066T    0    200     0      0     00     15
```

Z KM	TEMPERATURE CELCIUS
65	-28
64	-26
63	-25
62	-23
61	-21
60	-18
59	
58	
57	
56	
55	
54	
53	
52	
51	
50	
49	
48	
47	
46	
45	
44	
43	
42	
41	-1
40	-20
39	-22
38	-25
37	-28
36	-30
35	-32
34	-34
33	-36
32	-38
31	-40
30	-42
29	-44
28	-45
27	-47
26	-48
25	-50

AUGUST **FIGURE 9**

#

FIGURE 9



***SECOND DIFFERENCE TABLE FOR 3 RADARS SEQ N

R113 01	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MOD
RANGE	0	0	0	0	001304000R				
AZMTH	0	0	0	0	000051570A				
ELVAL	0	0	0	0	000043731E				
TIME	0	0	0	0	411254164T	0	200	0	0
R114 02	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MOD
RANGE	0	0	0	0	000420325R				
AZMTH	0	0	0	0	000042200A				
ELVAL	0	0	0	0	000022145E				
TIME	0	0	0	0	411254164T	0	200	0	0
R393 57	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MOD
RANGE	0	0	0	0	000467351R				
AZMTH	0	0	0	0	000057175A				
ELVAL	0	0	0	0	000025535E				
TIME	0	0	0	0	411254164T	0	200	0	0

**MISSING FRAMES = 0

```
                                   SEQ NUMBER   7401
+)   LASTPOINT   EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
     001304000R
     000051570A
     000043731E
     411254164T    0    200    0      0      00     1
+)   LASTPOINT   EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
     000420325R
     000042200A
     000022145E
     411254164T    0    200    0      0      00     2
+)   LASTPOINT   EOM  SAMPL  IDTAL  MODTL   MODE  SUBCH
     000467351R
     000057175A
     000025535E
     411254164T    0    200    0      0      00     15
```

Z KM TEMPERATURE CELCIUS SEPTEMBER **FIGURE 10**

Z KM	TEMPERATURE CELCIUS
65	-25
64	-23
63	-21
62	-19
61	-17
60	
59	
58	
57	
56	
55	
54	
53	
52	
51	
50	
49	
48	
47	
46	
45	
44	
43	
42	
41	-18
40	-21
39	-24
38	-27
37	-29
36	-31
35	-34
34	-35
33	-37
32	-39
31	-40
30	-42
29	-43
28	-45
27	-47
26	-48
25	-50

#

FIGURE 10

2

-17
-15
-13
-12
-11
-10
-9
-7
-6
-5
-4
-4
-4
-4
-5
-6
-8
-10
-12
-15
-18
-21
-24

0

***SECOND DIFFERENCE TABLE FOR 3 RADARS SEQ

		(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MO
R113	01	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MO
	RANGE	0	0	0	0	001571441R				
	AZMTH	0	0	0	0	000075716A				
	ELVAL	0	0	0	0	000055305E				
	TIME	0	0	0	0	411277604T	0	200	0	
R114	02	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MO
	RANGE	0	0	0	0	000525770R				
	AZMTH	0	0	0	0	000053034A				
	ELVAL	0	0	0	0	000026425E				
	TIME	0	0	0	0	411277604T	0	200	0	
R393	57	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MO
	RANGE	0	0	0	0	000611253R				
	AZMTH	0	0	0	0	000073524A				
	ELVAL	0	0	0	0	000033560E				
	TIME	0	0	0	0	411277604T	0	200	0	

**MISSING FRAMES = 0

SEQ NUMBER 7601

```
LASTPOINT   EOM  SAMPL  IDTAL  MODTL  MODE  SUBCH
001571441R
000075716A
000055305E
411277604T   0    200     0      0     00     1
LASTPOINT   EOM  SAMPL  IDTAL  MODTL  MODE  SUBCH
000525770R
000053034A
000026425E
411277604T   0    200     0      0     00     2
LASTPOINT   EOM  SAMPL  IDTAL  MODTL  MODE  SUBCH
000611253R
000073524A
000033560E
411277604T   0    200     0      0     00    15
```

2

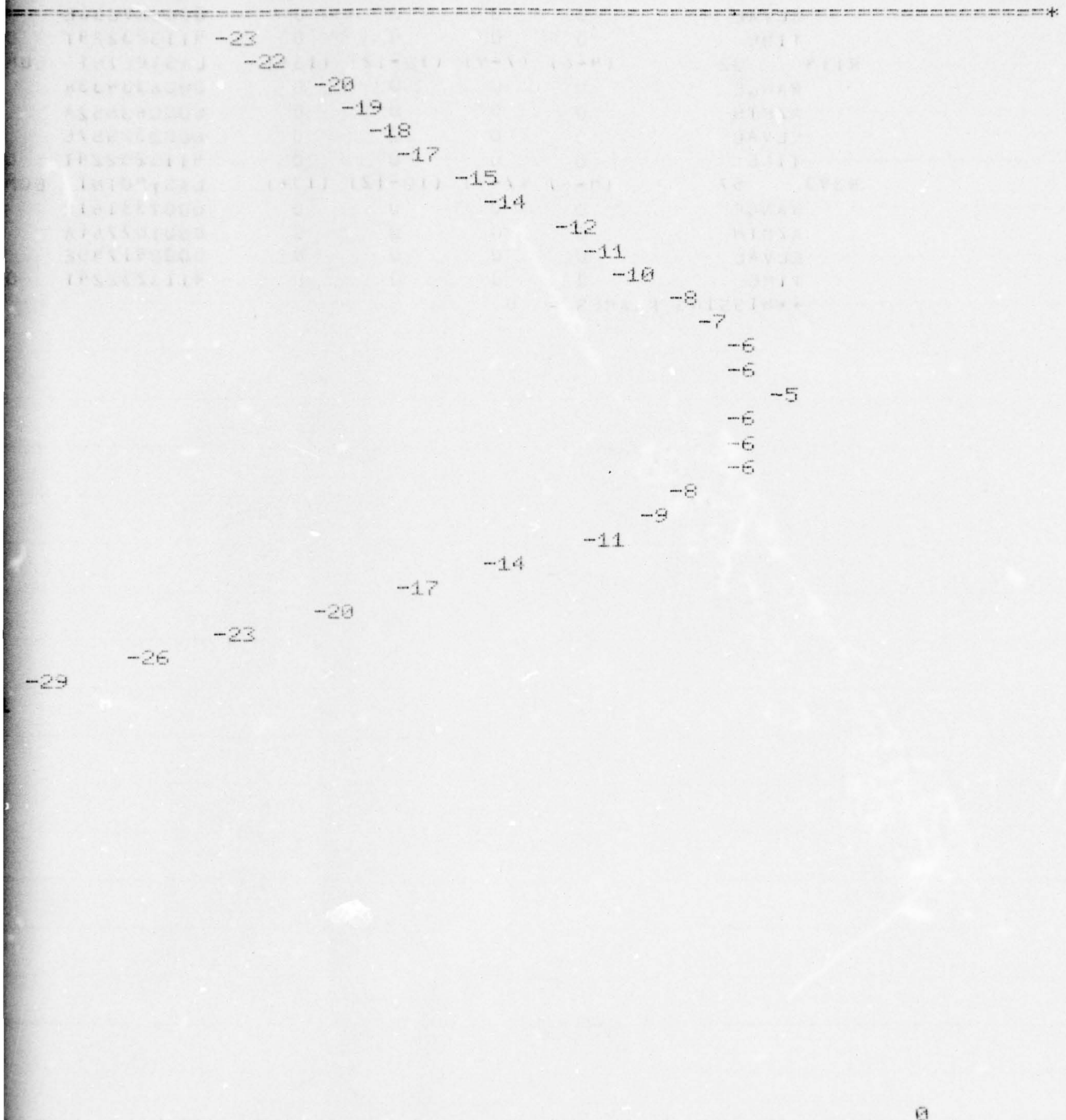
Z KM	TEMPERATURE CELCIUS
65	-23
64	-22
63	-20
62	-1
61	
60	
59	
58	
57	
56	
55	
54	
53	
52	
51	
50	
49	
48	
47	
46	
45	
44	
43	
42	
41	-20
40	-23
39	-26
38	-29
37	-31
36	-34
35	-36
34	-38
33	-40
32	-42
31	-43
30	-45
29	-46
28	-47
27	-48
26	-50
25	-52

OCTOBER **FIGURE 11**

#

BER FIGURE 11

2



***SECOND DIFFERENCE TABLE FOR 3 RADARS SEQ NU

		(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MODT
R113	01	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MODT
	RANGE	0	0	0	0	002057074R				
	AZMTH	0	0	0	0	000122251A				
	ELVAL	0	0	0	0	000067036E				
	TIME	0	0	0	0	411323224T	0	200	0	0
R114	02	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MODT
	RANGE	0	0	0	0	000633433R				
	AZMTH	0	0	0	0	000063652A				
	ELVAL	0	0	0	0	000032557E				
	TIME	0	0	0	0	411323224T	0	200	0	0
R393	57	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MODT
	RANGE	0	0	0	0	000733161R				
	AZMTH	0	0	0	0	000107761A				
	ELVAL	0	0	0	0	000041740E				
	TIME	0	0	0	0	411323224T	0	200	0	0

**MISSING FRAMES = 0

RADARS SEQ NUMBER 7801

(12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MODTL	MODE	SUBCH
	0	002057074R						
	0	000122251A						
	0	000067036E						
	0	411323224T	0	200	0	0	00	1

2

(12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MODTL	MODE	SUBCH
	0	000633433R						
	0	000063652A						
	0	000032557E						
	0	411323224T	0	200	0	0	00	2

(12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MODTL	MODE	SUBCH
	0	000733161R						
	0	000107761A						
	0	000041740E						
	0	411323224T	0	200	0	0	00	15

DO NOT PHOTOGRAPH

Z KM	TEMPERATURE CELCIUS
65	-20
64	-19
63	-19
62	
61	
60	
59	
58	
57	
56	
55	
54	
53	
52	
51	
50	
49	
48	
47	
46	
45	
44	
43	
42	-19
41	-22
40	-25
39	-28
38	-31
37	-34
36	-36
35	-38
34	-40
33	-42
32	-44
31	-45
30	-47
29	-48
28	-49
27	-50
26	-52
25	-54

NOVEMBER **FIGURE 12**

#

MBER **FIGURE 12**

2

==*

-20
-19
-19
-18
-17
-14
-14
-13
-12
-12
-10
-8
-8
-7
-6
-6
-6
-7
-7
-9
-11
-13
-16
-19
-22
-25
-28
-31

0

```
***SECOND DIFFERENCE TABLE FOR     3 RADARS                                            SEQ
  R113     01         (4-6) (7-9) (10-12) (13+)     LASTPOINT   EOM SAMPL IDTAL MO
      RANGE              0     0      0      0      002344531R
      AZMTH              0     0      0      0      000146563A
      ELVAL              0     0      0      0      000100712E
      TIME               0     0      0      0      411346644T   0   200   0
  R114     02         (4-6) (7-9) (10-12) (13+)     LASTPOINT   EOM SAMPL IDTAL MO
      RANGE              0     0      0      0      000741105R
      AZMTH              0     0      0      0      000074435A
      ELVAL              0     0      0      0      000037021E
      TIME               0     0      0      0      411346644T   0   200   0
  R393     57         (4-6) (7-9) (10-12) (13+)     LASTPOINT   EOM SAMPL IDTAL MO
      RANGE              0     0      0      0      001055054R
      AZMTH              0     0      0      0      000124157A
      ELVAL              0     0      0      0      000050222E
      TIME               0     0      0      0      411346644T   0   200   0
      **MISSING FRAMES =   0
```

DO NOT PHOTOGRAPH

SEQ NUMBER 8001

LASTPOINT	EOM	SAMPL	IDTAL	MODTL	MODE	SUBCH
002344531R						
000146563A						
000100712E						
411346644T	0	200	0	0	00	1

2

LASTPOINT	EOM	SAMPL	IDTAL	MODTL	MODE	SUBCH
000741105R						
000074435A						
000037021E						
411346644T	0	200	0	0	00	2

LASTPOINT	EOM	SAMPL	IDTAL	MODTL	MODE	SUBCH
001055054R						
000124157A						
000050222E						
411346644T	0	200	0	0	00	15

Z KM TEMPERATURE CELCIUS DECEMBER **FIGURE 13**

=

Z KM	TEMPERATURE CELCIUS
65	-22
64	-22
63	-21
62	-19
61	-19
60	-1
59	
58	
57	
56	
55	
54	
53	
52	
51	
50	
49	
48	
47	
46	
45	
44	
43	
42	
41	-18
40	-21
39	-24
38	-28
37	-31
36	-33
35	-36
34	-39
33	-41
32	-44
31	-46
30	-48
29	-49
28	-51
27	-52
26	-53
25	-54

#

BER FIGURE 13

2

==*

-22
-22
-21
-19
-19
-17
-16
-14
-13
-11
-10
-9
-7
-6
-5
-4
-3
-3
-4
-5
-6
-8
-11
-15
-18
-21
-24
-28

0

***SECOND DIFFERENCE TABLE FOR 3 RADARS SEQ NU

R113 01	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MODTL
RANGE	0	0	0	0	002632170R				
AZMTH	0	0	0	0	000173017A				
ELVAL	0	0	0	0	000112776E				
TIME	0	0	0	0	411372264T	0	200	0	0
R114 02	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MODTL
RANGE	0	0	0	0	001046560R				
AZMTH	0	0	0	0	000105313A				
ELVAL	0	0	0	0	000043370E				
TIME	0	0	0	0	411372264T	0	200	0	0
R393 57	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MODTL
RANGE	0	0	0	0	001176725R				
AZMTH	0	0	0	0	000140317A				
ELVAL	0	0	0	0	000056520E				
TIME	0	0	0	0	411372264T	0	200	0	0

**MISSING FRAMES = 0

DO NOT PHOTOGRAPH

```
                              SEQ NUMBER    8201
LASTPOINT   EOM SAMPL IDTAL MODTL   MODE SUBCH
002632170R
000173017A
000112776E
411372264T   0    200    0     0     00      1
LASTPOINT   EOM SAMPL IDTAL MODTL   MODE SUBCH
001046560R
000105313A
000043370E
411372264T   0    200    0     0     00      2
LASTPOINT   EOM SAMPL IDTAL MODTL   MODE SUBCH
001176725R
000140317A
000056520E
411372269T   0    200    0     0     00     15
```

2

Z KM E-W COMPONENT WINDS MPS +E -W JANUARY **FIGURE 14**

Z KM	
65	-74
64	-72
63	-68
62	-65
61	-65
60	-61
59	-58
58	-55
57	-54
56	-51
55	-49
54	-48
53	-47
52	-46
51	-46
50	-44
49	-43
48	-42
47	-40
46	-38
45	-34
44	-31
43	-28
42	-26
41	-24
40	-22
39	
38	
37	
36	
35	
34	
33	
32	
31	
30	
29	
28	
27	
26	
25	

1

2

JANUARY FIGURE 14

==*

2
-40
-38
-34
-31
-28
-26
-24
-22
-20
-20
-19
-18
-17
-15
-13
-11
-10
-8
-7
-5
-4
-3
-4

0

*

***SECOND DIFFERENCE TABLE FOR 1 RADARS SEQ NU

R122 03	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MOD
RANGE	0	0	[illegible]	0	001412450R				
AZMTH	0	0	[illegible]	0	000136115A				
ELVAL	0	0	0	0	000126001E				
TIME	0	0	0	0	427154022I	0	200	0	0

**MISSING FRAMES = 0

SEQ NUMBER 11601

TPOINT	EOM	SAMPL	IDTAL	MODTL	MODE	SUBCH
412450R						
135115A						
126001E						
154022I	0	200	0	0	00	3

2

Z KM E-W COMPONENT WINDS MPS +E -W FEBRUARY **FIGURE 15**

Z KM	E-W COMPONENT WINDS MPS
65	-66
64	-66
63	-67
62	-67
61	-64
60	-60
59	-58
58	-54
57	-52
56	-51
55	-49
54	-49
53	-47
52	-45
51	-44
50	-43
49	-42
48	-40
47	-38
46	-36
45	-35
44	-32
43	-30
42	-28
41	-26
40	-25
39	-25
38	-24
37	-22
36	-21
35	-1
34	
33	
32	
31	
30	
29	
28	
27	
26	
25	

1

2

EBRUARY **FIGURE 15**

```
=========================================================================================*

6
-35
   -32
      -30
          -28
             -26
              -25
              -25
                -24
                   -22
                    -21
                       -19
                          -17
                              -15
                                  -12
                                     -10
                                        -8
                                           -6
                                             -5
                                              -4
                                                  -2
                                                  -2

                                                     0
```

***SECOND DIFFERENCE TABLE FOR 1 RADARS

R122 03	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	TOTAL	SE
RANGE	0	0	[illegible]	0	001572342R				
AZMTH	0	0	[illegible]	0	000125671A				
ELVAL	0	0	0	0	000131636E				
TIME	0	0	0	0	427130402T	0	200	0	

**MISSING FRAMES = 0

DO NOT PHOTOGRAPH

SEQ NUMBER 11401

LASTPOINT	EOM	SAMPL	IDTAL	MODTL	MODE	SUBCH
001572342R						
000125671A						
000131636E						
427130402T	0	200	0	0	00	3

2

DO NOT PHOTOGRAPH

Z KM E-W COMPONENT WINDS MPS +E -W MARCH **FIGURE 16**

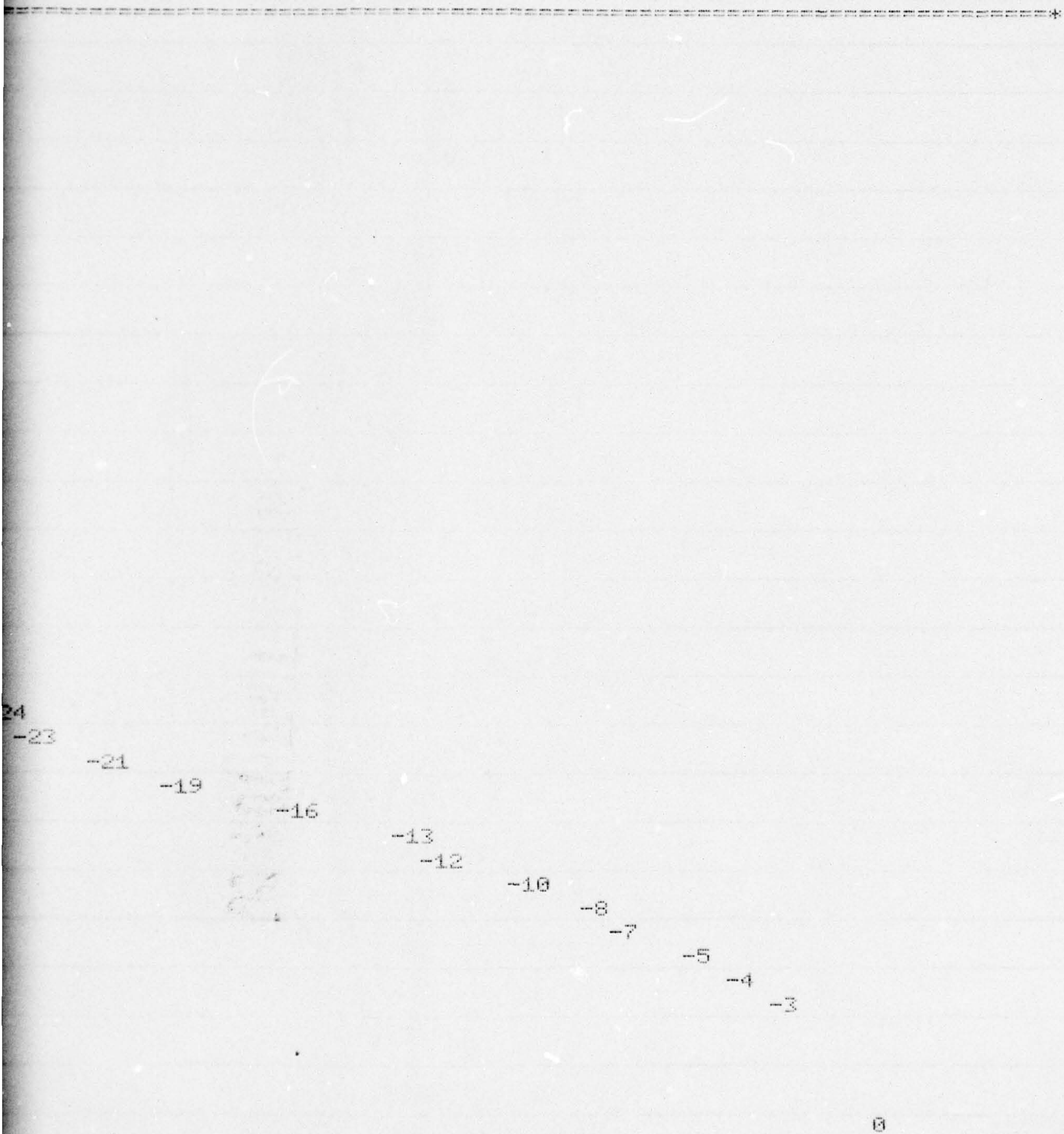
Z KM	E-W COMPONENT WINDS MPS
65	-38
64	-39
63	-39
62	-42
61	-41
60	-40
59	-41
58	-41
57	-39
56	-38
55	-37
54	-36
53	-36
52	-35
51	-35
50	-34
49	-33
48	-32
47	-32
46	-31
45	-30
44	-29
43	-28
42	-27
41	-26
40	-26
39	-26
38	-25
37	-24
36	-23
35	-21
34	-19
33	-16
32	
31	
30	
29	
28	
27	
26	
25	

#

1

2

MARCH FIGURE 16



***SECOND DIFFERENCE TABLE FOR 1 RADARS SEQ NUM

R122 03	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MODTE
RANGE	0	0	0	0	001752237R				
AZMTH	0	0		0	000115412A				
ELVAL	0	0	0	0	000135405E				
TIME	0	0	0	0	427104762T	0	200	0	0

**MISSING FRAMES = 0

1

SEQ NUMBER 11201

LASTPOINT	EOM	SAMPL	IDTAL	MODTL	MODE	SUBCH
001752237R						
000115412A						
000135405E						
427104762T	0	200	0	0	00	3

2

DO NOT PHOTOGRAPH

Z KM E-W COMPONENT WINDS MPS +E -W APRIL **FIGURE 17**

Z KM	E-W
65	
64	
63	
62	
61	
60	-5
59	-5
58	-7
57	-7
56	-8
55	-9
54	-9
53	-10
52	-11
51	-11
50	-13
49	-13
48	-14
47	-14
46	-14
45	-14
44	-14
43	-14
42	-14
41	-14
40	-15
39	-16
38	-17
37	-17
36	-17
35	-16
34	-14
33	-13
32	-10
31	-9
30	-8
29	-7
28	
27	
26	
25	

#

2

FIGURE 17

***SECOND DIFFERENCE TABLE FOR 1 RADARS SEQ NU

R122 03	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MODT
RANGE	0	0	[illegible]	0	002132127R				
AZMTH	0	0	[illegible]	0	000105146A				
ELVAL	0	0	0	0	000141170E				
TIME	0	0	0	0	427061342T	0	200	0	0

**MISSING FRAMES = 0

DO NOT PHOTOGRAPH

SEQ NUMBER 11001

LASTPOINT	EOM	SAMPL	IDTAL	MODTL	MODE	SUBCH
002132127R						
000105146A						
000141170E						
427061342T	0	200	0	0	00	3

2

DO NOT PHOTOGRAPH

Z KM E-W COMPONENT WINDS MPS +E -W MAY **FIGURE 18**

Z KM	
65	
64	
63	
62	
61	
60	
59	
58	
57	
56	
55	
54	22
53	22
52	20
51	20
50	19
49	18
48	15
47	14
46	14
45	13
44	12
43	11
42	9
41	8
40	6
39	5
38	3
37	1
36	1
35	0
34	0
33	0
32	0
31	1
30	1
29	1
28	2
27	3
26	3
25	4

#
0

1

2

MAY FIGURE 18

```
===========================================================================================*
                                                                        33
                                                                   32
                                                                   32
                                                                        33
                                                                   32
                                                            30
                                                     28
                                                     28
                                             26
                                         25
                                  23
                              22
                              22
                      20
                      20
                  19
              18
       15
   14
   14
13
```

***SECOND DIFFERENCE TABLE FOR 1 RADARS

SEQ NUMBER

R122 03	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MODTL
[illegible]NGE	0	0	[illegible]	0	002651560R				
[illegible]MTH	0	0	[illegible]	0	000054202A				
ELVAL	0	0	0	0	000154414E				
TIME	0	0	0	0	426766662T	0	200	0	0

**MISSING FRAMES = 0

SEQ NUMBER 10401

LASTPOINT	EOM	SAMPL	IDTAL	MODTL	MODE	SUBCH
002651560R						
000054202A						
000154414E						
426766662T	0	200	0	0	00	3

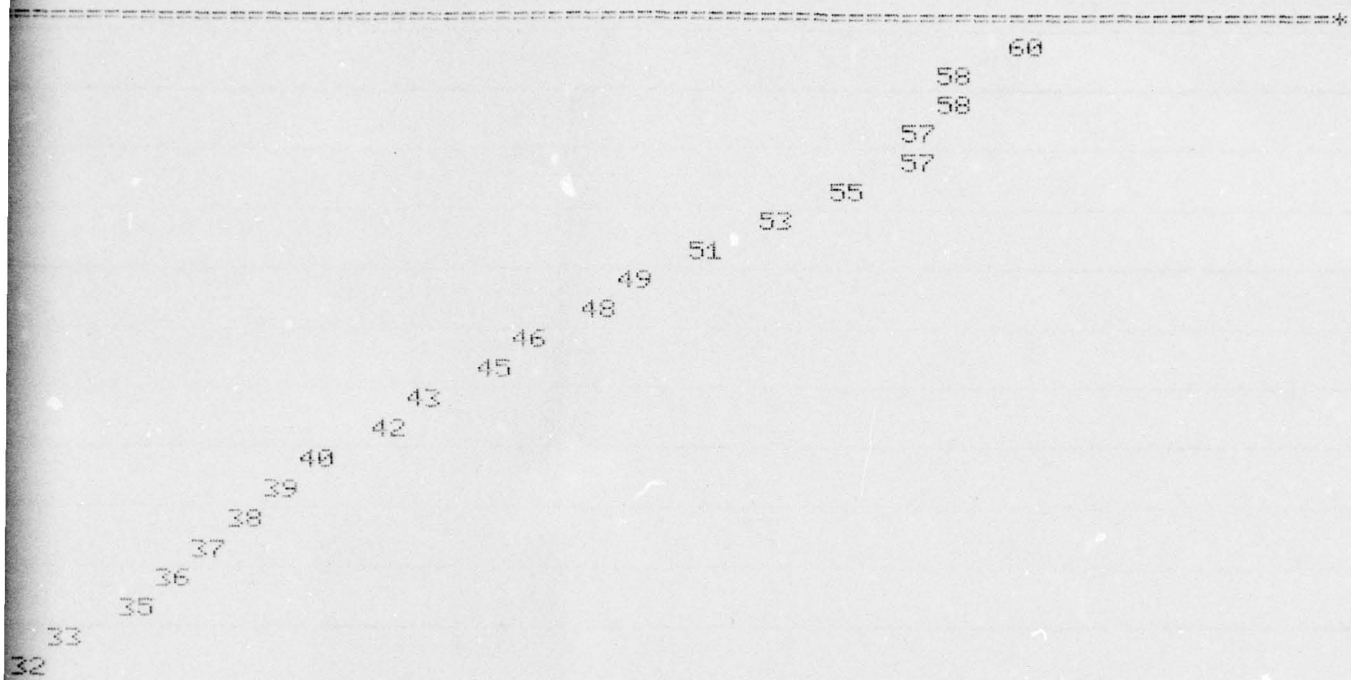
2

DO NOT PHOTOGRAPH

1

```
Z KM      E-W COMPONENT WINDS MPS +E -W                  JUNE      FIGURE 19
    =
==========================================================================================
 65
 64
 63
 62
 61
 60
 59
 58
 57
 56
 55
 54                                                                           4
 53                                                                       43
 52                                                                     42
 51                                                                 40
 50                                                               39
 49                                                             38
 48                                                           37
 47                                                         36
 46                                                       35
 45                                                   33
 44                                                 32
 43                                               31
 42                                           29
 41                                     26
 40                                 24
 39                             22
 38                           21
 37                       19
                        17
 35                     17
 34                   16
 33                 15
 32               14
 31               14
 30             13
 29             13
 28           12
 27           12
 26         11
 25       10
X AXIS OFF PAGE TO LEFT
```

JUNE **FIGURE 19** 2



***SECOND DIFFERENCE TABLE FOR 1 RADARS SEQ NUMB

R122 03	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MODTL
RANGE	0	0	[illegible]	0	003031444R				
AZMTH	0	0	[illegible]	0	000043721A				
ELVAL	0	0	0	0	000160067E				
TIME	0	0	0	0	426743242T	0	200	0	0

**MISSING FRAMES = 0

SEQ NUMBER 10201

LASTPOINT	EOM	SAMPL	IDTAL	MODTL	MODE	SUBCH
003031444R						
000043721A						
000160067E						
426743242T	0	200	0	0	00	3

2

DO NOT PHOTOGRAPH

Z KM E-W COMPONENT WINDS MPS +E -W JULY **FIGURE 20**

Z KM	
65	50
64	
63	
62	
61	
60	
59	
58	
57	
56	
55	
54	
53	
52	
51	
50	49
49	47
48	46
47	45
46	44
45	42
44	42
43	40
42	38
41	36
40	33
39	31
38	30
37	28
36	26
35	24
34	23
33	22
32	22
31	21
30	21
29	20
28	19
27	18
26	17
25	17

X AXIS OFF PAGE TO LEFT

2

JULY **FIGURE 20**

*

50
55
55
60
63
61
61
60
59
57
54
54
54
53
51
49
47
46
45
44
42
42
40
8

***SECOND DIFFERENCE TABLE FOR 1 RADARS SEQ NUMBE

R122 03	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MODTL
RANGE	0	0	[illegible]	0	003211331R				
AZMTH	0	0	[illegible]	0	000033464A				
ELVAL	0	0	0	0	000163517E				
TIME	0	0	0	0	426717622T	0	200	0	0

**MISSING FRAMES = 0

DO NOT PHOTOGRAPH

SEQ NUMBER 10001

LASTPOINT	EOM	SAMPL	IDTAL	MODTL	MODE	SUBCH
003211331R						
000033464A						
000163517E						
426717622T	0	200	0	0	00	3

2

DO NOT PHOTOGRAPH

Z KM E-W COMPONENT WINDS MPS +E -W AUGUST **FIGURE 21**

Z KM	
65	17
64	20
63	20
62	26
61	30
60	31
59	
58	
57	
56	
55	
54	
53	
52	
51	
50	
49	
48	
47	
46	
45	
44	
43	
42	30
41	29
40	27
39	26
38	24
37	23
36	22
35	21
34	21
33	21
32	20
31	20
30	20
29	19
28	18
27	17
26	17
25	16

X AXIS OFF PAGE TO LEFT

2

AUGUST FIGURE 21

```
26
          30
            31
              32
                  34
                    35
                      36
                      36
                      36
                        37
                        37
                        37
                      36
                      36
                      36
                    35
                      36
                  34
                33
              32
          30
        29
   27
26
```

***SECOND DIFFERENCE TABLE FOR 1 RADARS SEQ

R122 03	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MO
RANGE	0	0	[illegible]	0	003371205R				
AZMTH	0	0	[illegible]	0	000023222A				
ELVAL	0	0	0	0	000167703E				
TIME	0	0	0	0	426674202T	0	200	0	

**MISSING FRAMES = 0

DO NOT PHOTOGRAPH

SEQ NUMBER 9801

LASTPOINT	EOM	SAMPL	IDTAL	MODTL	MODE	SUBCH
003371205R						
000023222A						
000167703E						
426674202T	0	200	0	0	00	3

1 2

DO NOT PHOTOGRAPH

Z KM E-W COMPONENT WINDS MPS +E -W SEPTEMBER **FIGURE 22**

Z KM	E-W
65	-12
64	-9
63	-9
62	-9
61	-8
60	-7
59	-4
58	-2
57	-2
56	-1
55	1
54	1
53	3
52	4
51	
50	4
49	
48	
47	
46	
45	
44	
43	
42	
41	
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37	
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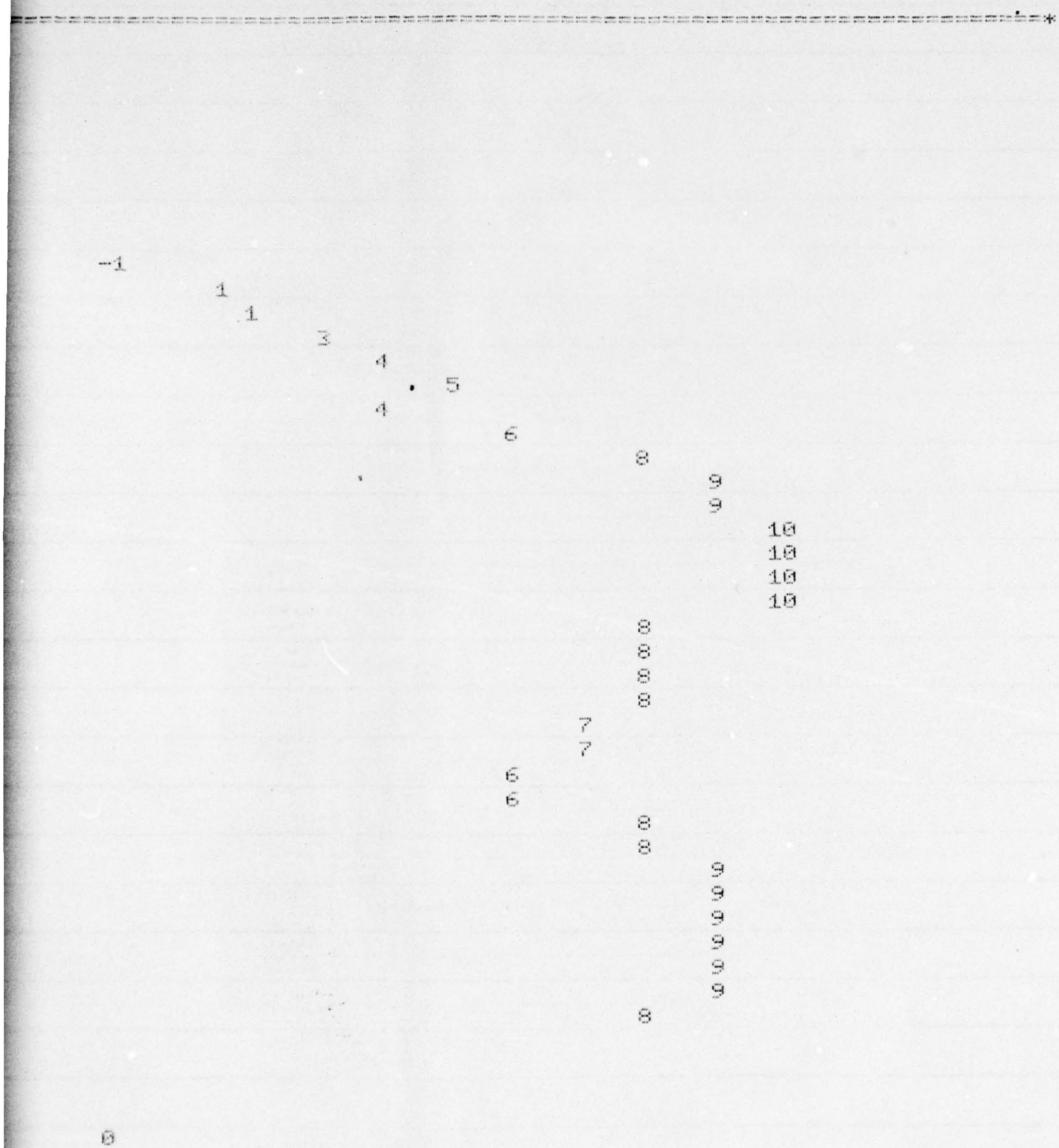
32	
31	
30	
29	
28	
27	
26	
25	

0

2

SEPTEMBER FIGURE 22



***SECOND DIFFERENCE TABLE FOR 1 RADARS SEQ NUM

R122	03	(4-6)	(7-9)	(10-12)	(13+)	LASTPOINT	EOM	SAMPL	IDTAL	MODTL
	RANGE	0	0	0	0	003551062R				
	AZMTH	0	0	0	0	000012753A				
	ELVAL	0	0	0	0	000173645E				
	TIME	0	0	0	0	426650562T	0	200	0	0

**MISSING FRAMES = 0

DO NOT PHOTOGRAPH

SEQ NUMBER 9601

LASTPOINT	EOM	SAMPL	IDTAL	MODTL	MODE	SUBCH
003551062R						
000012753A						
000173645E						
426550562T	0	200	0	0	00	3

2

1

DO NOT PHOTOGRAPH

Z KM	E-W COMPONENT WINDS MPS +E -W
65	-47
64	-47
63	-46
62	-49
61	-50
60	-50
59	-50
58	-49
57	-48
56	-47
55	-46
54	-45
53	-44
52	-42
51	-41
50	-39
49	-37
48	-34
47	-32
46	-30
45	-29
44	-27
43	-25
42	-23
41	-22
40	-21
39	-20
38	-20
37	-18
36	-16
35	-15
34	
33	
32	
31	
30	
29	
28	
27	
26	
25	

OCTOBER **FIGURE 23**

#

2

OCTOBER FIGURE 23

==*

-25
-23
-22
-21
-20
-20
-18
-16
-15
-13
-11
-9
-7
-5
-5
-4
-2
-2
-1
0

1

SEQUENCE NUMBER 7501 IOMUX CHANNEL 1 RADAR

........RANGE........	**	........AZIMUTH.......	**	.......ELEVATION......	*	ID MOD
OCTAL	DIF	OCTAL	DIF	OCTAL	DIF	OCTAL
4273211	-506	246	-70	152435	-24	001 000
4272503	-506	157	-67	152410	-25	001 00
4271773	-510	67	-70	152363	-25	001 000
4271265	-506	377777	377710	152337	-24	001 001
4270556	-507	377707	-70	152312	-25	001 000
4270046	-510	377620	-67	152266	-24	001 001
4267340	-506	377530	-70	152240	-26	001 000
4266632	-506	377441	-67	152214	-24	001 001

SEQUENCE NUMBER 9201 IOMUX CHANNEL 3 RADAR

........RANGE........	**	........AZIMUTH.......	**	.......ELEVATION......	*	ID MOD
OCTAL	DIF	OCTAL	DIF	OCTAL	DIF	OCTAL
1404107	-437	141252	27	134675	-11	003 001
1403450	-437	141300	26	134665	-10	003 000
1403012	-436	141326	26	134653	-12	003 001
1407354	4342	141353	25	134642	-11	003 000
1401715	-5437	141402	27	134631	-11	003 001
1401257	-436	141430	26	134620	-11	003 000
1400620	-437	141455	25	134607	-11	003 001
1400162	-436	141503	26	134576	-11	003 000
1377522	-440	141532	27	134565	-11	003 001

SEQUENCE NUMBER 9401 IOMUX CHANNEL 3 RADAR

........RANGE........	**	........AZIMUTH.......	**	.......ELEVATION......	*	ID MOD
OCTAL	DIF	OCTAL	DIF	OCTAL	DIF	OCTAL
1325541	-436	144716	25	133420	-10	003 000
1325102	-437	144745	27	133410	-10	003 001
1324444	-436	144772	25	133377	-11	003 000
41324005	37777341	145021	27	133367	-10	003 001
1323347	-40000436	145046	25	133356	-11	003 000
1322710	-437	145074	26	133346	-10	003 001
1322251	-437	145122	26	133336	-10	003 000
1321613	-436	145150	26	133326	-10	003 001
1321154	-437	145176	26	133315	-11	003 000

END OF FILE TPFCN = 7 DUMP TYPE = 1 N = 6 NRAD= 5 .IOK = 995

DO NOT PHOTOGRAPH

2

ELEVATION.......+		ID MODE	TIME	TDIF	SUBSQN	ERROR
[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	001 [illegible]	[illegible]	62	[illegible]	[illegible]
[illegible]	[illegible]	001 00127	[illegible]	62	7646	[illegible]
[illegible]	[illegible]	001 00053	[illegible]	62	7647	[illegible]
[illegible]	[illegible]	001 00127	426000464	62	7648	[illegible]
[illegible]	[illegible]	001 00053	426000546	62	7649	0100
[illegible]	-20	001 00127	426000630	62	7650	0000
[illegible]	-20	001 00053	426000712	62	7651	0000
[illegible]	-20	001 00127	426000774	62	7652	0000

RADAR R122

ELEVATION.......+		ID MODE	TIME	TDIF	SUBSQN	ERROR
OCTAL	DTF	OCTAL	OCTAL	OCTAL	DEC	[illegible]
[illegible]	-11	003 00127	426244214	62	9324	0000
[illegible]	-10	003 00053	426244276	62	9325	0000
[illegible]	-10	003 00127	426244360	62	9326	0000
[illegible]	-11	003 00053	426244442	62	9327	1000
[illegible]	-11	003 00127	426244524	62	9328	1000
[illegible]	-11	003 00053	426244606	62	9329	1000
[illegible]	-11	003 00127	426244670	62	9330	0000
[illegible]	-11	003 00053	426244752	62	9331	0000
[illegible]	-11	003 00127	426245034	62	9332	0000

RADAR R122

ELEVATION.......+		ID MODE	TIME	TDIF	SUBSQN	ERROR
OCTAL	DTF	OCTAL	OCTAL	OCTAL	DEC	[illegible]
3420	-10	003 00053	426254302	62	9407	0000
[illegible]	-10	003 00127	426254364	62	9408	0000
[illegible]	-11	003 00053	426254446	62	9409	0000
[illegible]	-10	003 00127	426254530	62	9410	1000
[illegible]	-11	003 00053	426254612	62	9411	1000
[illegible]	-10	003 00127	426254674	62	9412	1000
[illegible]	-10	003 00053	426254756	62	9413	0000
[illegible]	-10	003 00127	426255040	62	9414	0000
[illegible]	-11	003 00053	426255122	62	9415	0000

[illegible]= 5   .TOK = 995   IERR= 2   SUBSEQ =9419

DO NOT PHOTOGRAPH

Z KM E-W COMPONENT WINDS MPS +E -W NOVEMBER **FIGURE 24**

Z KM	
65	-61
64	-62
63	-70
62	-71
61	-73
60	-74
59	-75
58	-75
57	-76
56	-76
55	-76
54	-76
53	-75
52	-74
51	-72
50	-71
49	-69
48	-66
47	-63
46	-60
45	-58
44	-54
43	-52
42	-49
41	-47
40	-45
39	-43
38	-41
37	-40
36	-37
35	-34
34	-31
33	-28
32	
31	
30	
29	
28	
27	
26	
25	

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2

NOVEMBER **FIGURE 24**

===*

-45
-43
-41
-40
-37
-34
-31
-28
-26
-23
-20
-18
-16
-14
-12
-9

0

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Z KM   E-W COMPONENT WINDS MPS +E -W   DECEMBER   **FIGURE 25**

Z KM	E-W WIND (MPS)
65	-80
64	-79
63	-75
62	-74
61	-74
60	-72
59	-74
58	-74
57	-74
56	-74
55	-73
54	-71
53	-73
52	-72
51	-70
50	-70
49	-69
48	-68
47	-67
46	-66
45	-64
44	-61
43	-58
42	-56
41	-54
40	-52
39	-49
38	-46
37	-43
36	-39
35	-35
34	-31
33	-27
32	
31	
30	
29	
28	
27	
26	
25	

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2

ER FIGURE 25

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-39

-35

-31

-27

-22

-18

-16

-13

-11

-8

-11

-10

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SECTION II PART 1

STRATOSPHERIC MODEL OF CLIMATOLOGICAL PARAMETERS OVER WSMR

This section presents models of the climatological data presented in Section I of this report. Stratospheric temperature, density, pressure, and wind components are modeled from 25-65 km on a Julian day basis. Following the presentation of the model is a detailed analysis of several spring and autumn wind crossover patterns. The modeling of the stratospheric parameters has been basically approached from a best fit point of view.

The model for the stratospheric wind is divided into two sections (North-South components and East-West components). The reader should note that the sign convention is the opposite to that utilized in Section I of this report, i.e., the model assigns + to N,E and - to W,S winds. A copy of the E-W model has been included showing nicely the spring and autumn crossovers (Table 13).

The essential equations and routines used for the E-W circulation model are presented briefly below. Essentially they consist of a best fit trigonometric function.

```
0110  PRINT "INPUT JULIAN DAY"
0130  INPUT X
0132  PRINT
0170  PRINT "INPUT Z IN KM"
0190  INPUT Z
0191  PRINT
0230  LET B=45
0250  LET A=B-X
0270  IF X<45 THEN LET A=0
0290  IF X>315 THEN LET A=270
0310  LET H1=-(2/3)*Z+148.33
0330  LET H2=-(2/3)*Z+298.33
0350  IF X<165 THEN LET D=-(70/45)*Z+361.111
0370  IF X=>165 THEN LET D=-Z+350
0390  IF X>165 THEN IF X<195 THEN LET A+(270/360)*180
0410  LET J=1.71428*Z-41.4284
0430  IF Z<30 THEN LET J=5
0450  LET Y=-J*COS((A*360)/(D*57.295))
0470  LET Y=INT(Y)
```

E-W WIND COMPONENT MODEL TABLE 13

DAY	HEIGHTS IN KM									
	20	25	30	35	40	45	50	55	60	65
1	5-	5-	10-	19-	28-	36-	45-	53-	62-	70-
6	5-	5-	10-	19-	28-	36-	45-	53-	62-	70-
11	5-	5-	10-	19-	28-	36-	45-	53-	62-	70-
16	5-	5-	10-	19-	28-	36-	45-	53-	62-	70-
21	5-	5-	10-	19-	28-	36-	45-	53-	62-	70-
26	5-	5-	10-	19-	28-	36-	45-	53-	62-	70-
31	5-	5-	10-	19-	28-	36-	45-	53-	62-	70-
36	5-	5-	10-	19-	28-	36-	45-	53-	62-	70-
41	5-	5-	10-	19-	28-	36-	45-	53-	62-	70-
46	5-	5-	10-	19-	28-	36-	45-	53-	62-	70-
51	5-	5-	10-	19-	27-	36-	44-	53-	61-	70-
56	5-	5-	10-	19-	27-	35-	43-	52-	60-	68-
61	5-	5-	10-	18-	26-	34-	42-	50-	58-	65-
66	5-	5-	10-	17-	25-	33-	40-	47-	55-	62-
71	5-	5-	9-	16-	24-	31-	38-	44-	51-	57-
76	5-	5-	9-	15-	22-	29-	35-	41-	46-	52-
81	4-	4-	8-	14-	20-	26-	31-	37-	41-	46-
86	4-	4-	7-	13-	18-	23-	28-	32-	36-	39-
91	4-	4-	7-	11-	16-	20-	24-	27-	29-	32-
96	3-	3-	6-	10-	13-	17-	19-	21-	23-	24-
101	3-	3-	5-	8-	11-	13-	15-	16-	16-	16-
106	2-	2-	4-	6-	8-	9-	10-	10-	9-	7-
111	2-	2-	3-	5-	5-	6-	5-	4-	2-	1
116	2-	1-	2-	3-	3-	2-	0	2	5	10
121	1-	1-	1-	1-	0	2	5	8	12	18
126	1-	0	0	1	3	6	9	14	19	26
131	0	0	1	3	6	10	14	20	26	34
136	0	1	2	5	9	13	19	25	32	41
141	1	1	3	7	11	17	23	30	38	47
146	1	1	4	8	14	20	27	35	44	53
151	2	2	5	10	16	23	31	39	48	58
156	2	2	6	12	18	26	34	43	52	62
161	2	3	6	13	20	28	37	46	56	66
166	4	4	8	16	24	33	42	50	59	69
171	4	4	8	16	24	33	42	50	59	69
176	4	4	8	16	24	33	42	50	59	69
181	4	4	8	16	24	33	42	50	59	69
186	4	4	8	16	24	33	42	50	59	69
191	4	4	8	16	24	33	42	50	59	69
196	4	4	9	18	27	35	44	52	60	68
201	4	4	9	18	27	35	43	51	59	66
206	4	4	9	18	26	35	43	50	57	64
211	4	4	9	18	26	34	41	48	55	60
216	4	4	9	17	25	33	40	46	51	56
221	4	4	9	17	24	31	37	43	48	51
226	4	4	9	16	23	29	35	39	43	46
231	4	4	8	15	21	27	32	36	38	40
236	4	4	8	14	20	25	28	31	33	33
241	4	3	7	13	18	22	25	27	27	26
246	3	3	6	12	16	19	21	22	21	19
251	3	3	6	10	13	16	17	16	15	11
256	3	2	5	8	11	12	12	11	8	4
261	2	2	4	7	8	9	8	5	1	4-
266	2	2	3	5	6	5	3	0	5-	12-
271	1	1	2	3	3	2	1-	6-	12-	19-
276	1	1	1	1	0	2-	6-	11-	18-	26-
281	1	0	0	0	2-	6-	11-	17-	24-	33-
286	0	0	1-	2-	5-	9-	15-	22-	30-	40-
291	0	1-	2-	4-	8-	13-	19-	27-	36-	46-
296	1-	1-	3-	6-	10-	16-	23-	32-	41-	52-
301	1-	2-	4-	8-	13-	20-	27-	36-	46-	57-
306	2-	2-	5-	9-	15-	23-	31-	40-	50-	61-
311	2-	3-	5-	11-	18-	25-	34-	44-	54-	64-
316	3-	3-	6-	12-	19-	27-	36-	46-	56-	67-
321	3-	3-	6-	12-	19-	27-	36-	46-	56-	67-
326	3-	3-	6-	12-	19-	27-	36-	46-	56-	67-
331	3-	3-	6-	12-	19-	27-	36-	46-	56-	67-
336	3-	3-	6-	12-	19-	27-	36-	46-	56-	67-
341	3-	3-	6-	12-	19-	27-	36-	46-	56-	67-
346	3-	3-	6-	12-	19-	27-	36-	46-	56-	67-
351	3-	3-	6-	12-	19-	27-	36-	46-	56-	67-
356	3-	3-	6-	12-	19-	27-	36-	46-	56-	67-
361	3-	3-	6-	12-	19-	27-	36-	46-	56-	67-

NOTE: A MINUS SIGN FOLLOWING A NUMBER DENOTES A "WEST" COMPONENT

The E-W profiles fall into generally three major categories based on the slope of the curves. Type 1 - for strong well established easterly or westerly flow, the curves are nearly linear (Figure 14). Type 2 - for flow that still is predominately strong easterly or westerly, but is beginning to suggest a slowdown above 50 km. The profile suggests a hook configuration (Figure 16). Type 3 - this profile is strongly parabolic and occurs during the actual spring and fall turnovers (Figure 17).

The approach for the N-S circulation model was a best fit cubic polynomial with an additional logarithmic term with the following sign convention:

N/S S-
N+

at Z = 25km   Y = 1 mps where Y is N/S component in mps

at Z = 65km

$$
\begin{aligned}
Y_{65}(D) = & -63.597516 - 6.136 * D \\
& -.0057 * D^2 + 34.3045 * \ln(D) \\
& +.000004275 * D^3 \\
& +1.231017 * D * \ln(D)
\end{aligned}
$$

D = Julian Day

$$Y_Z(D) = \frac{Z - 25 (Y_{65}(D) -1) + 40}{40}$$

where: Z is altitude in km

$Y_Z(D)$ = N/S wind in mps at Z km at Day "D"

$Y_{65}(D)$ is N/S wind in mps at Day "D" at 65km

The approach is to best fit the wind in altitude then linearally interploate for time.

Both density and pressure being more conservative were best fit exponentially in height and then linearally interploated in time. The equations are as follows.

DENSITY MODEL

Exponential spatial fit linearally interpolated temporal fit

$$P = e^{(J - .143\,Z)} + f$$

Z in km

for $1 \leq \text{Day} \leq 182,$ $\qquad J = \dfrac{(D-1)\ (0.13)}{181} + 7.17$

for $82 \leq \text{Day} \leq 365$ $\qquad J = \dfrac{(D-182)\ (-0.13)}{183} + 7.3$

f = 3.3 for Jan, 25km only

PRESSURE MODEL

Exponential spatial best fit linearally interpolated temporally

$$P = e^{(J - .13Z)} + f$$

f = 1.2 25km only

for $1 \leq \text{Day} \leq 182$ $\qquad J = \dfrac{(D-1)\ (.05)}{181} + 6.45$

for $182 \leq \text{Day} \leq 365$ $\qquad J = \dfrac{(D-182)\ (-.05)}{183} + 6.50$

Novlan modeled temperature from another best fit point of view. Temperature was best fit to a cubic polynomial in altitude with a term added then linearally interpolated for time. Results are good within 2 to 3°C. The equations are presented below:

TEMPERATURE MODEL

$$\begin{aligned} T_1 \text{ (Jan) C}° = {} & -2400.59756 - 2593.055\,Z \\ & -10.37\,Z^2 + .0216933\,Z^3 \\ & +6092.022 \ln(Z) \\ & +665.3986\,Z \ln(Z) \end{aligned}$$

$$\begin{aligned} T_2 \text{ (June) C}° = {} & -3799.172 - 2260.56647\,Z \\ & -7.78677\,Z^2 + .0216933\,Z^3 \\ & +6111.4755 \ln(Z) \\ & +560.69812\,Z \ln(Z) \end{aligned}$$

for $1 \leq D \leq 182$ $\qquad \dfrac{(T_2 - T_1)\ (D-1)}{181} + T_1 = T$

for $182 \leq D \leq 365$ $\qquad \dfrac{(T_1 - T_2)\ (D-182)}{183} + T_2 = T$

where T is in C°

McCullough utilized a least squares approach of a limited harmonic analysis method to model the stratospheric temperature. The model produces accuracies less than 1°C; however, as seen below, the model is lengthly and requires linear interpolation between 5km height increments. The equations are as follows:

```
LIST
0005  LET X=1
0010  PRINT
0018  LET Y=-51.913-2.88*COS(6.28*X/365)-.725*SIN(6.28*X/365)
0020  LET Y=Y-.239*COS(4*3.14*X/365)-.323*SIN(4*3.14*X/365)
0030  LET A=INT(Y)  25KM
0040  LET Y=43.525-8.751*COS(6.28*X/365)+.434*SIN(6.28*X/365)
0050  LET Y=Y-.5608*COS(4*3.14*X/365)+.1981*SIN(4*3.14*X/365)
0060  LET Y=Y- .0992*COS(6*3.14*X/365)+.097*SIN(6*3.14*X/365)
0070  LET Y=Y+.263*COS(8*3.14*X/365)-.268*SIN(8*3.14*X/365)
0080  LET B=INT(Y)  30KM
0090  LET Y=-32.517-3.183*COS(6.28*X/365)+3.014*SIN(6.28*X/365)
0100  LET Y=Y-.3416*COS(4*3.14*X/365)+.757*SIN(4*3.14*X/365)
0110  LET Y=Y-.3745*COS(6*3.14*X/365)+.526*SIN(6*3.14*X/365)
0120  LET Y=Y-.1*COS(8*3.14*X/365)-.4861*SIN(8*3.14*X/365)
0130  LET Y=Y-.302*COS(31.4*X/365)-.588*SIN(31.4*X/365)
0140  LET C=INT(Y)  35KM
0150  LET Y=-18.685-2.476*COS(6.28*X/365)+3.574*SIN(6.28*X/365)
0160  LET Y=Y+.674*COS(4*3.14*X/365)+.543*SIN(4*3,14*X/365)
0170  LET Y=Y+.456*COS(6*3.14*X/365)+.893*SIN(6*3.14*X/365)
0180  LET D=INT(Y)  40KM
0190  LET Y=-6 .035-1.498*COS(6.28*X/365)+2.322*SIN(6.28*X/365)
0200  LET Y=Y+1.42*COS(4*3.14*X/365)-.448*SIN(4*3.14*X/365)
0210  LET Y=Y+1.158*COS(6*3.14*X/365)+1.12*SIN(6*3.14*X/365)
0220  LET Y=Y+.499*COS(8*3.14*X/365)+.262*SIN(8*3.14*X/365)
0240  LET E=INT(Y)  45KM
0250  LET Y=-4.032-1.766*COS(6.28*X/365)+1.402*SIN(6.28*X/365)
0260  LET Y=Y+.516*COS(4*3.14*X/365)-1.691*SIN(4*3.14*X/365)
0270  LET Y=Y+.707*COS(6*3.14*X/365)+.214*SIN(6*3.14*X/365)
0280  LET Y=Y+.317*COS(8*3.14*X/365)-.235*SIN(8*3.14*X/365)
0290  LET F=INT(Y)  50KM
0300  LET Y=-9.182-1.738*COS(6.28*X/365)+1.007*SIN(6.28*X/365)
0310  LET Y=Y-1.202*COS(4*3.14*X/365)-1.488*SIN(4*3.14*X/365)
0320  LET Y=Y+.241*COS(6*3.14*X/365)-.268*SIN(6*3.14*X/365)
0330  LET Y=Y+.113*COS(8*3.14*X/365)-.907*SIN(8*3.14*X/365)
0340  LET G=INT(Y)  55KM
```

```
0350  LET Y=-16.224+.0917*COS(6.28*X/365)+.781*SIN(6.28*X/365)
0360  LET Y=Y-1.573*COS(4*3.14*X/365)-1.376*SIN(4*3.14*X/365)
0370  LET Y=Y+.0426*COS(6*3.14*X/365)-.139*SIN(6*3.14*X/365)
0380  LET Y=Y-.204*COS(8*3.14*X/365)-.642*SIN(8*3.14*X/365)
0390  LET Y=Y-.719*COS(31.4*X/365)+.338*SIN(31.4*X/365)
0 400 LET H=INT(Y)  60KM
0410  LET Y=-24.206+2.932*COS(6.28*X/365)-.0541*SIN(6.28*X/365)
0420  LET Y=Y-1.185*COS(4*3.14*X/365)-.5234*SIN(4*3.14*X/365)
0430  LET Y=Y-.7445*COS(6*3.14*X/365)-1.687*SIN(6*3.14*X/365)
0440  LET Y=Y+.826*COS(8*3.14*X/365)+.386*SIN(8*3.14*X/365)
0450  LET Y=Y-.859*COS(31.4*X/365)-.119*SIN(31.4*X/365)
0 460  LET  I=INT(Y)  65KM
0465  IF X>1 THEN GOTO 0490
0470  PRINT " J  25  30  35  40  45 50 55  60  65"
0490  PRINT X;A;B;C;D;E;F;G;H;I
0500  LET X=X+5
0505  IF X>365 THEN GOTO 0520
0510  GOTO 0010
0520  STOP

*
```

SECTION II PART 2

E-W WIND COMPONENT CHANGEOVER CASES AT WSMR

Changeover of the E-W wind component at WSMR from 25km to 65km is considered for four cases - 1969, 1970, 1972, and 1974. These cases are arbitrarily chosen for convenience and not because of special features. The next step is to establish changeover criteria for more objective timing.

Since the level from 25km to 30km changes only slightly, 30km to 65km will be used for the changeover criteria. The following criteria presented a reasonable approach although some subjectiveness is still present.

C	$\geq$10mps above 30km
R	
I	Close as possible to zero without significant changeover
T	
E	Close as possible to zero after changeover
R	
I	$\geq$10mps above 30km after changeover
A	

The greatest change occurs in the 50-65km region and decreases to 25km. Averages of the four cases give a fall changeover from September 10 to October 4 with a 24 day transition (Figure 26). The spring changeover average is April 16 to May 11 or 25 days (Figure 27).

Our model of the changeover (Table 13) shows a fall changeover from September 14 to October 8 or 24 days and a spring changeover from April 20 to May 5 or 15 days. The shorter spring changeover is not confirmed by the four cases. Because of the many subjective factors, no conclusion can be drawn about the relative length of spring and winter changeover periods.

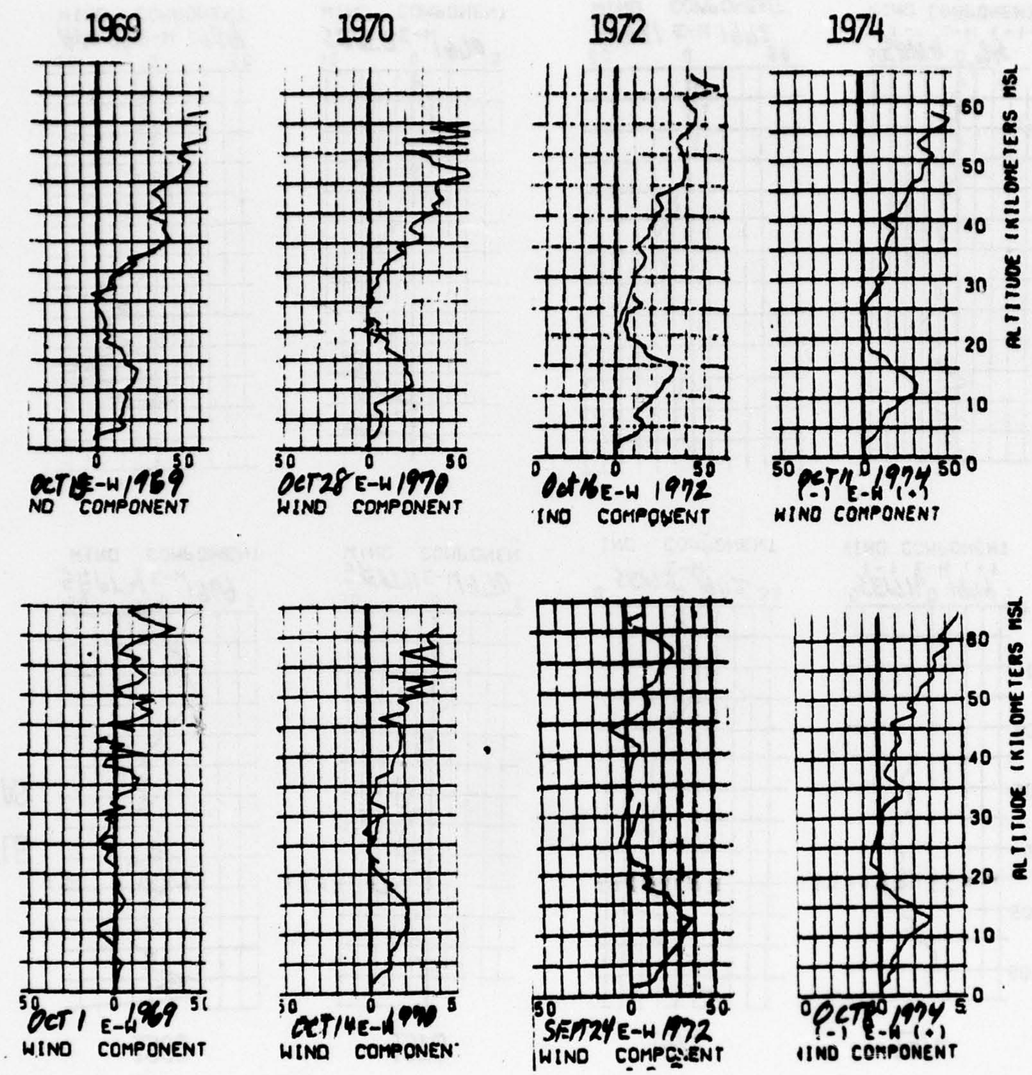
NOTE: The negative sign following a number means west wind in meters per second and a positive number is east wind (mps) - this convention is opposite to the Section I data where plus is west and south directions. The Data Section follows the convention of reference 12.

FOUR FALL CHANGEOVER CASES FIGURE 26

FALL

≥ OR NEAR 10MPS ABOVE 30KM WEST

CLOSE TO CHANGE-OVER WITH AS LITTLE SIGNIFICANT EAST AS POSSIBLE



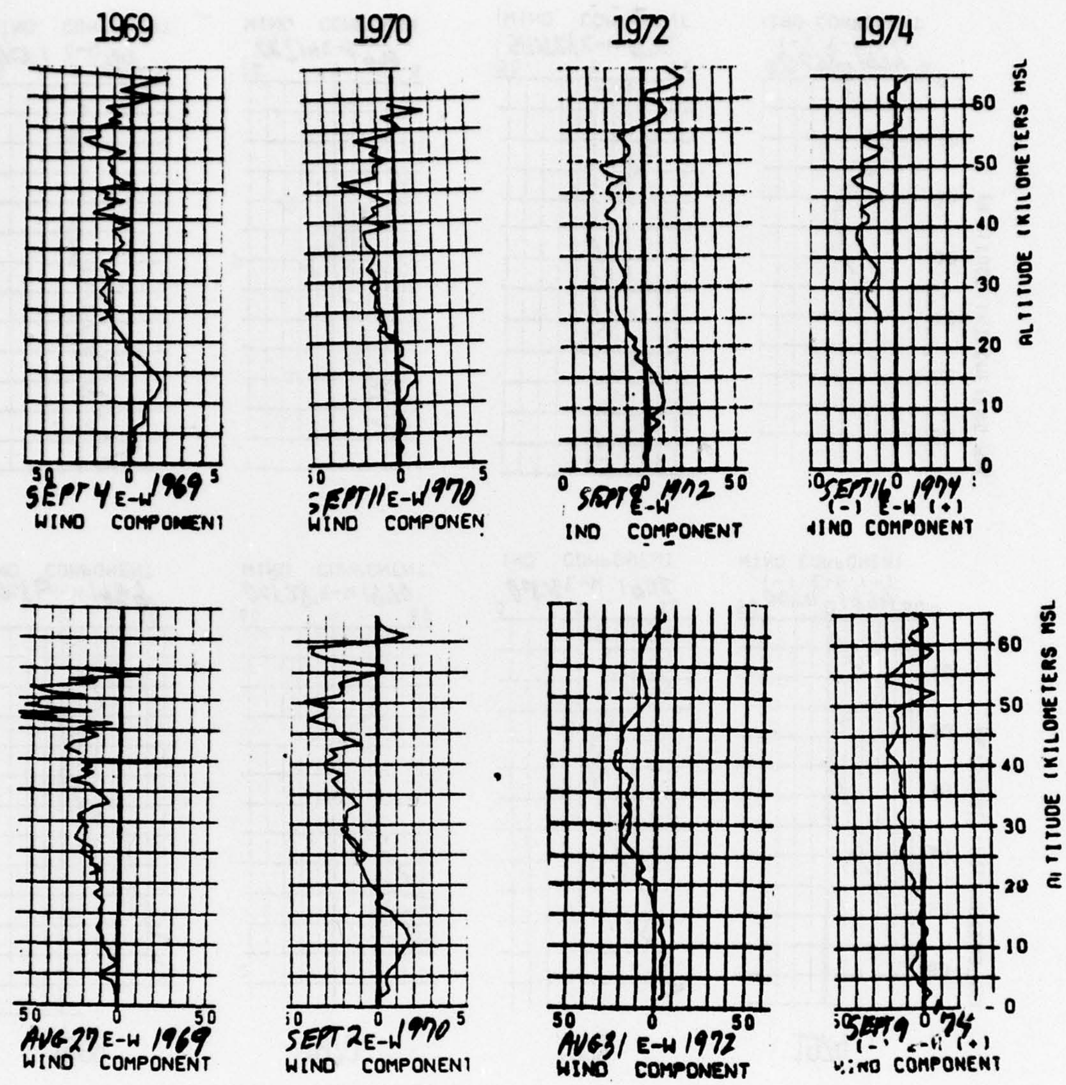
WIND COMPONENT IN METERS/SEC.

FOUR FALL CHANGEOVER CASES FIGURE 26 (CONT)

FALL

CLOSE TO CHANGE-
OVER WITH AS LITTLE
SIGNIFICANT WEST AS
POSSIBLE

≥ 10MPS EAST
ABOVE 30KM



WIND COMPONENT IN METERS/SEC.

FOUR SPRING CHANGEOVER CASES FIGURE 27

SPRING

≥ OR NEAR 10MPS

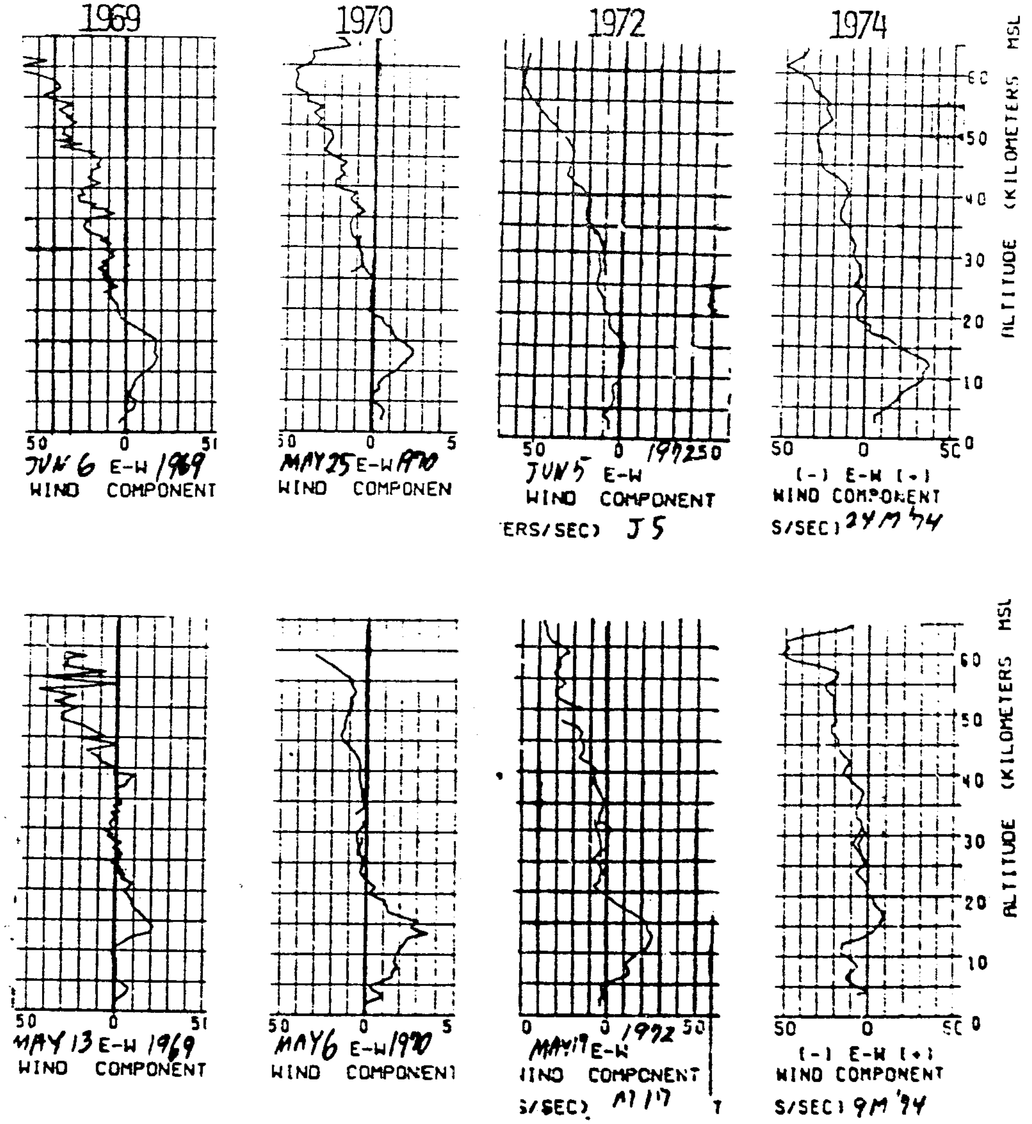
ABOVE 30KM EAST

CLOSE TO CHANGE-

OVER WITH AS LITTLE

SIGNIFICANT WEST AS

POSSIBLE



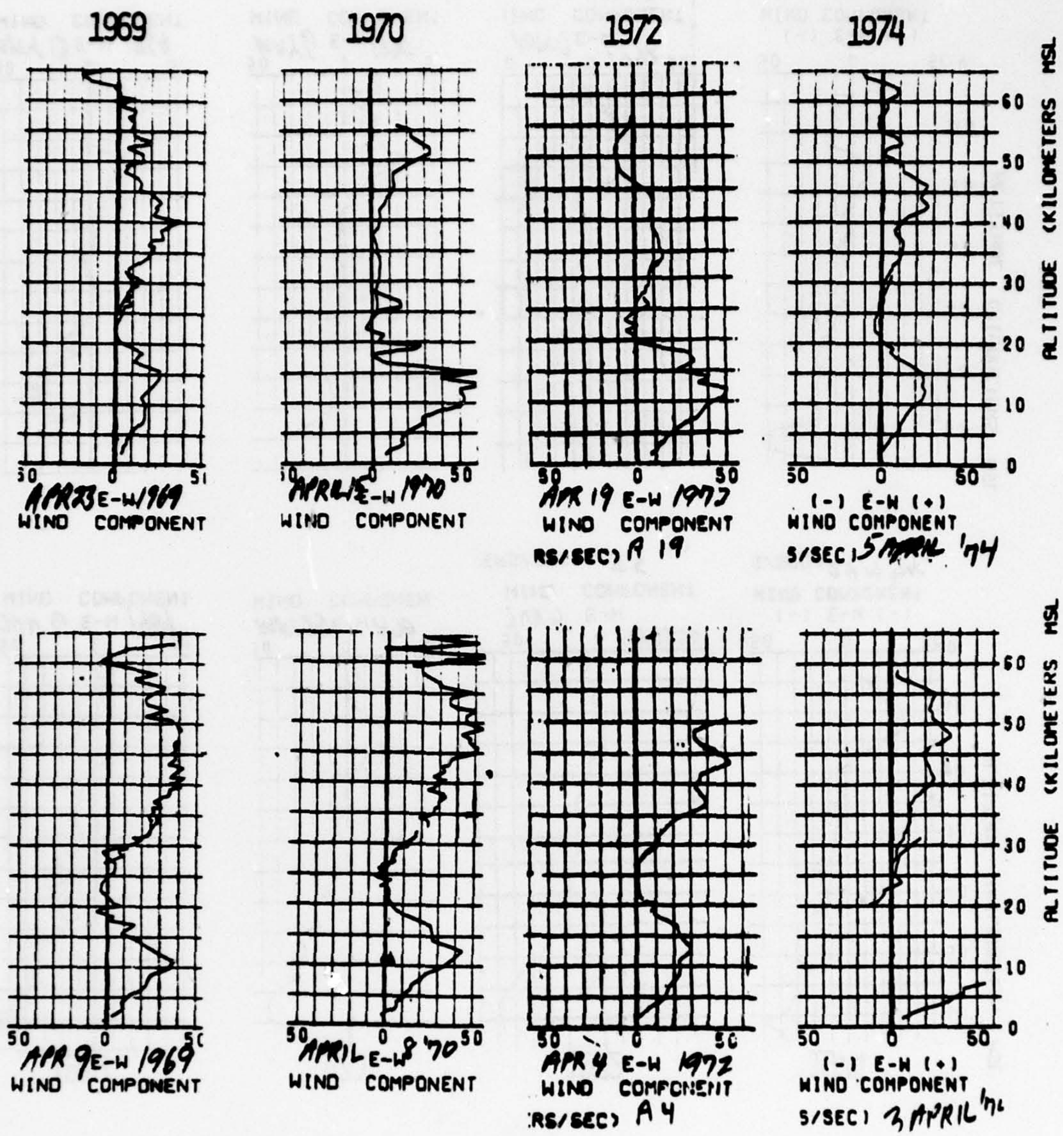
WIND COMPONENT IN METERS/SEC.

FOUR SPRING CHANGEOVER CASES FIGURE 27 (CONT)

SPRING

CLOSE TO CHANGE-OVER WITH AS LITTLE SIGNIFICANT EAST AS POSSIBLE

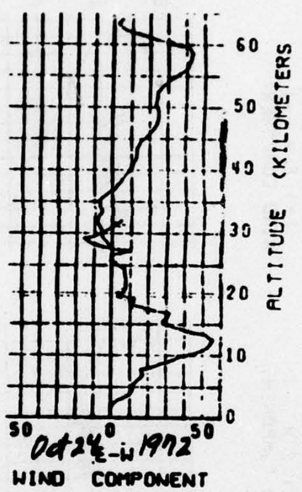
≥ 10MPS WEST ABOVE 30KM



WIND COMPONENT IN METERS/SEC.

The transition is not well behaved. October 24, 1972, shows a reversal of the changeover completed October 16, 1972, in the 28-37km region (Figure 28). Zero or west wind component was observed during two bracketing rocketsondes - October 20 and October 25, 1972.

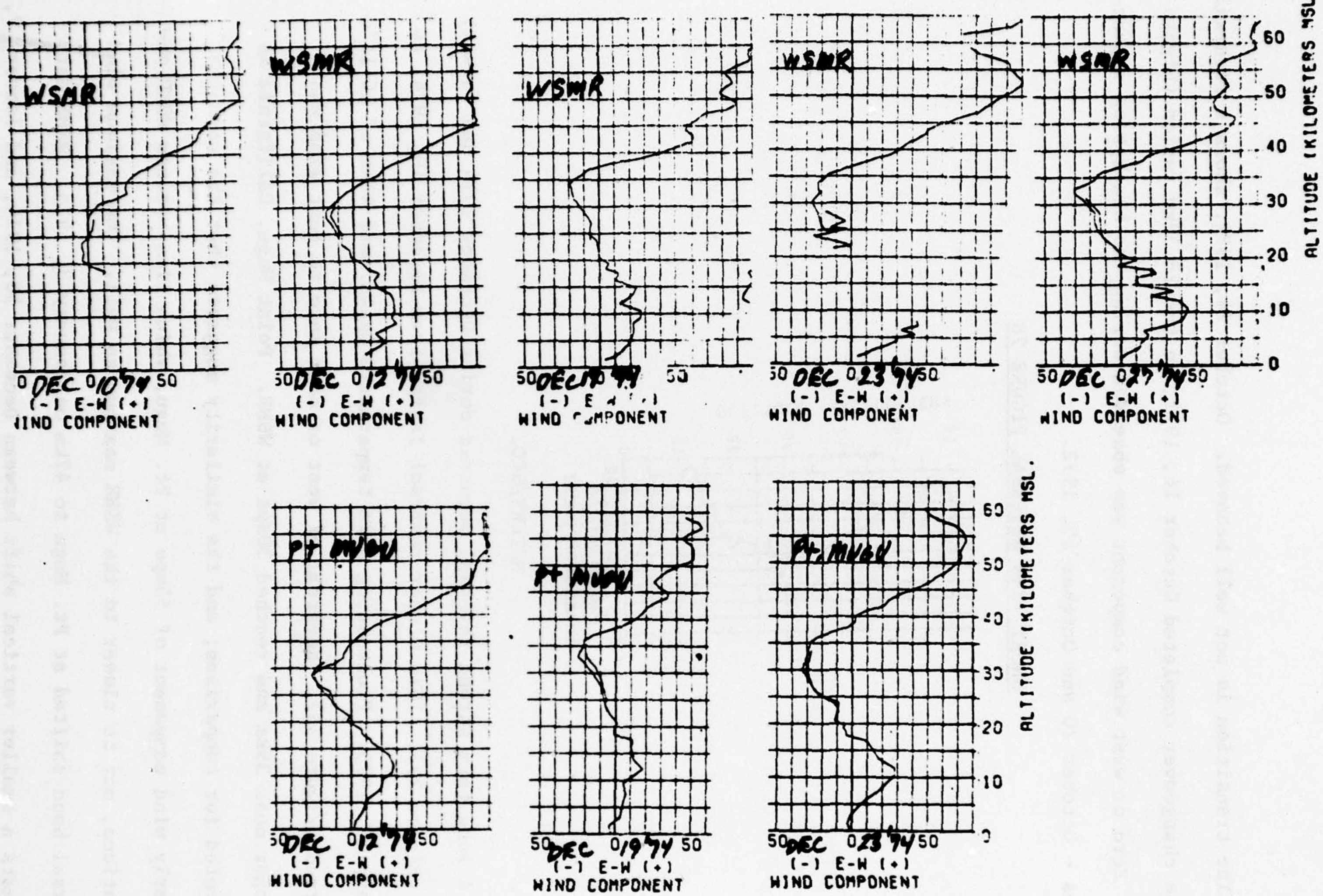
SHORT TERM REVERSAL FIGURE 28



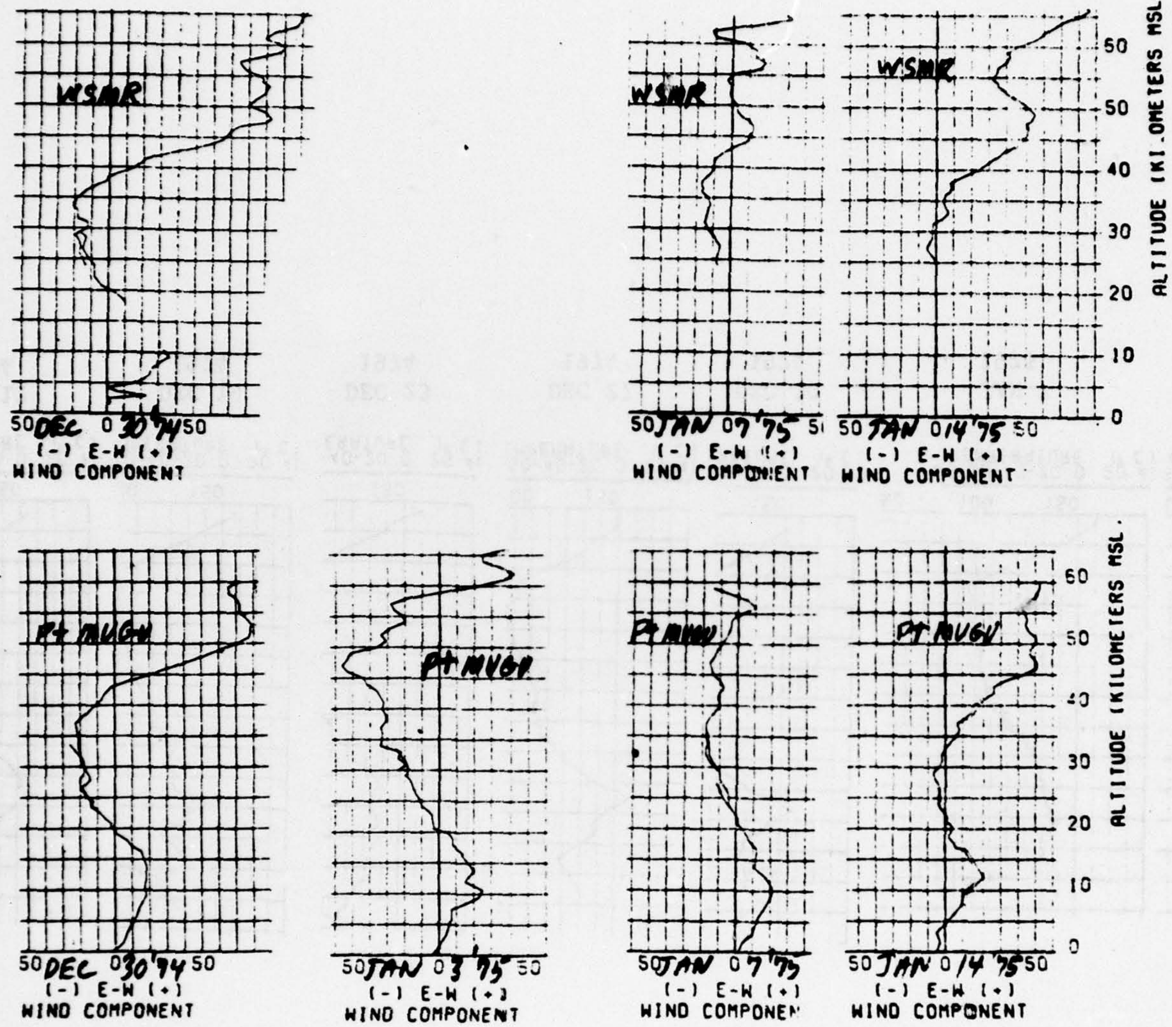
METERS/SEC.

A long term strong reversal occurred during December 1974 and January 1975 (Figure 29). This winter reversal lasted from December 10, 1974, to January 14, 1975. Fluctuating warm temperature peaks near 46km of 10-15°C occurred (Figure 30). Reversal of west or near zero to east wind was stronger near 35km and reached 30mps at WSMR. Point Mugu, California is presented for comparison; and the similarity suggests that the strongest easterly wind component of 55mps at Pt. Mugu, which lies between WSMR observations, may be closer to the WSMR maximum as well. The maximum wind reversal band shifted at Pt. Mugu to 47km on January 3, 1975. WSMR data suggests a smaller vertical shift between December 30, 1974, and January 7, 1975.

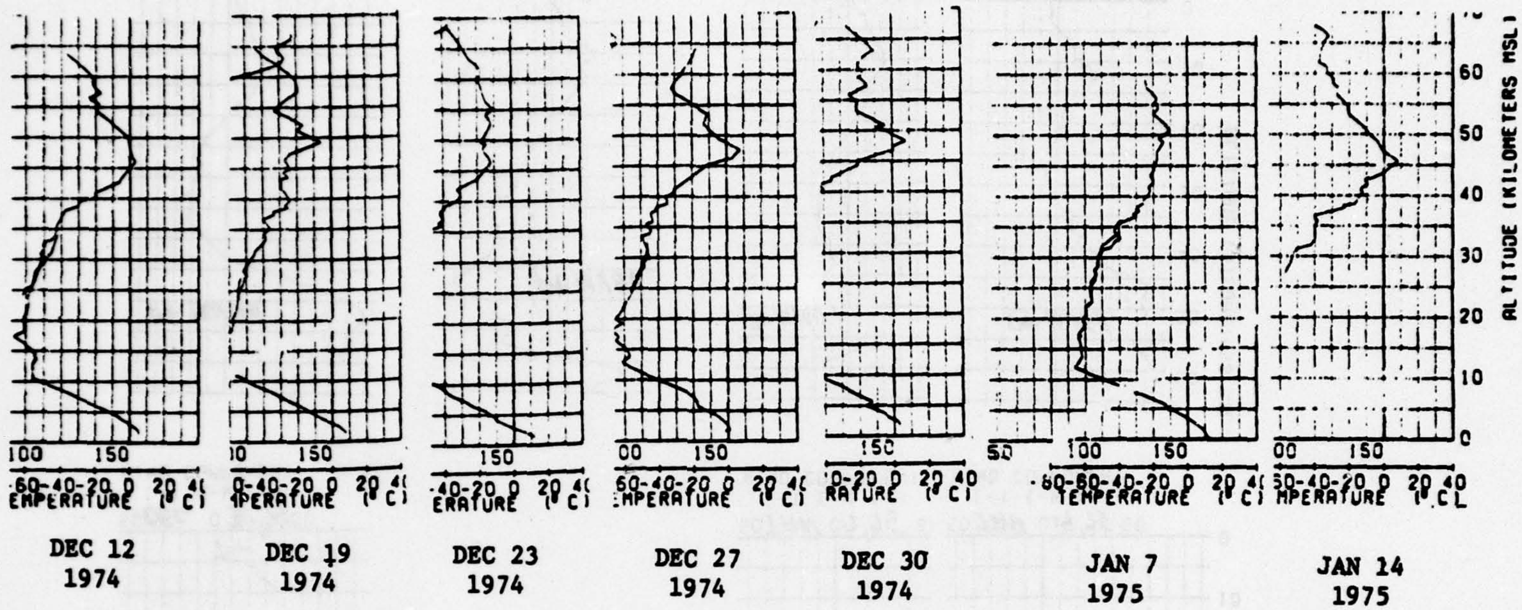
LONG TERM REVERSAL FIGURE 29



LONG TERM REVERSAL FIGURE 29 (CONT)



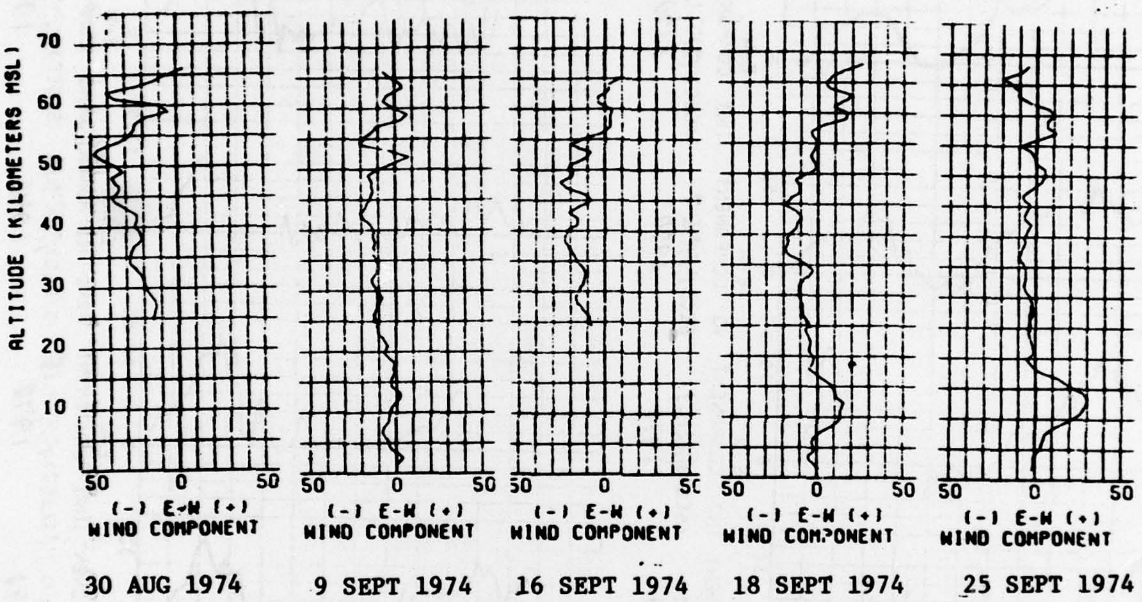
TEMPERATURE PROFILE AT WSMR DURING LONG TERM REVERSAL FIGURE 30

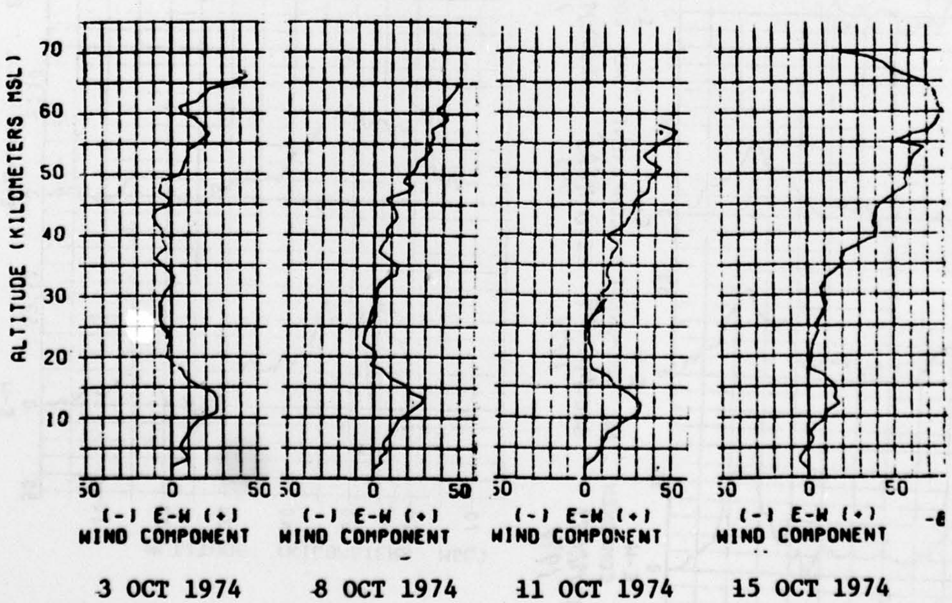


Higher standard deviations in the WSMR data for E-W wind components during the winter reflect these short and long term reversals.

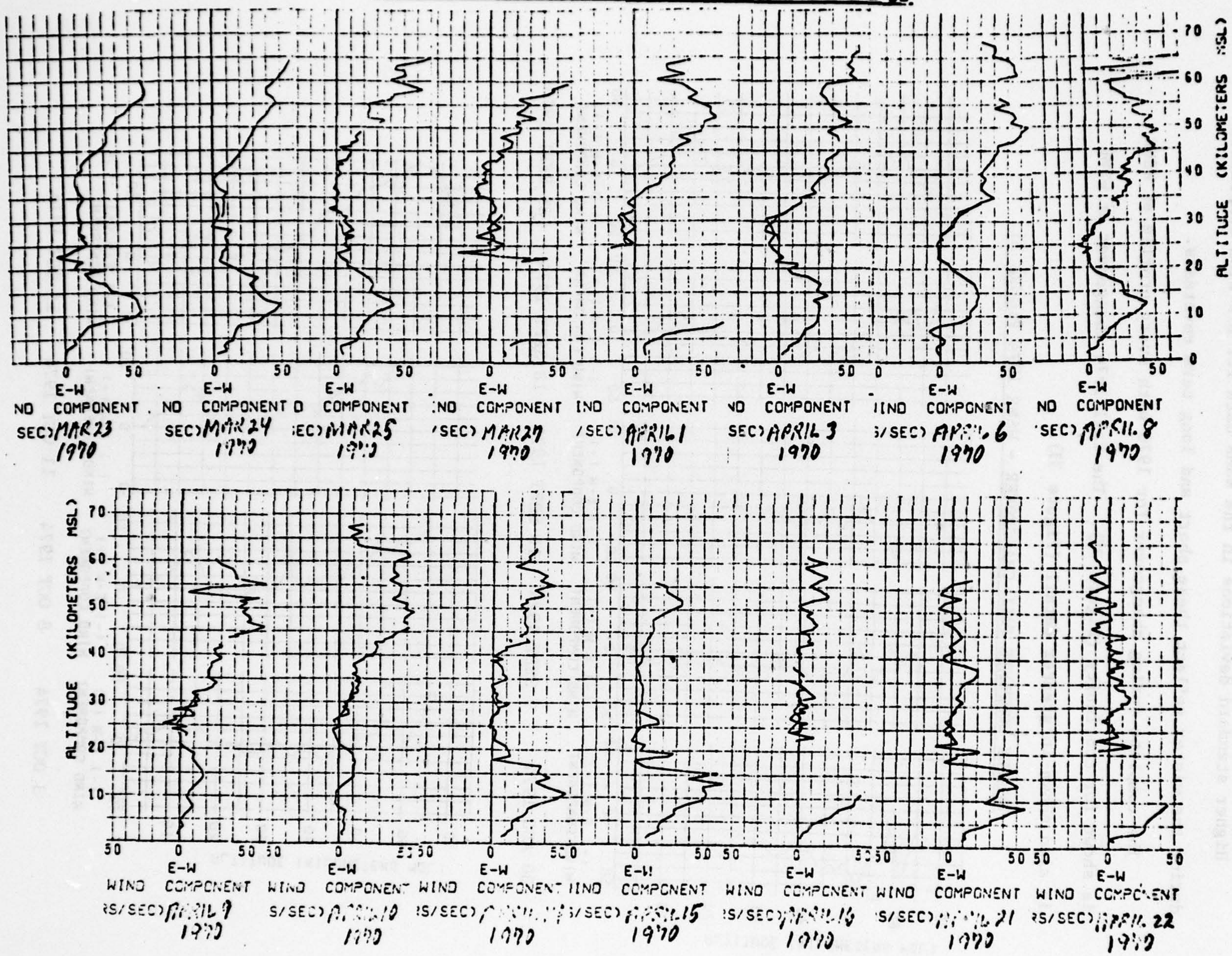
The complete spring changeover for 1970 with every profile at WSMR is shown for continuity (Figure 32). The fall 1974 changeover at WSMR is also shown in greater detail (Figure 31).

NEARLY COMPLETE FALL CHANGEOVER - WSMR 1974 FIGURE 31

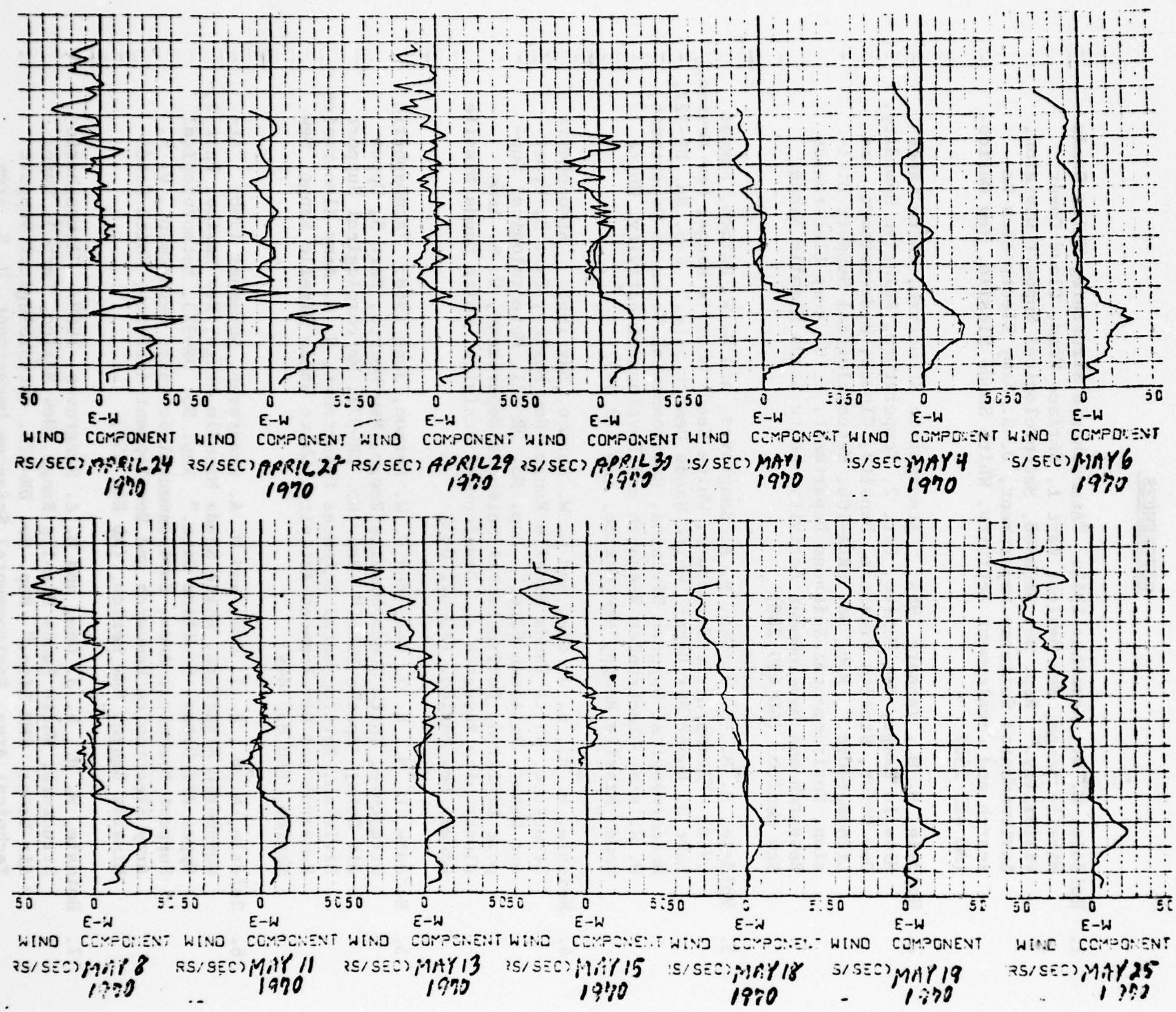




COMPLETE SPRING CHANGEOVER - WSMR 1970 FIGURE 32.



COMPLETE SPRING CHANGEOVER - WSMR 1970 FIGURE 32 (CONT)



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